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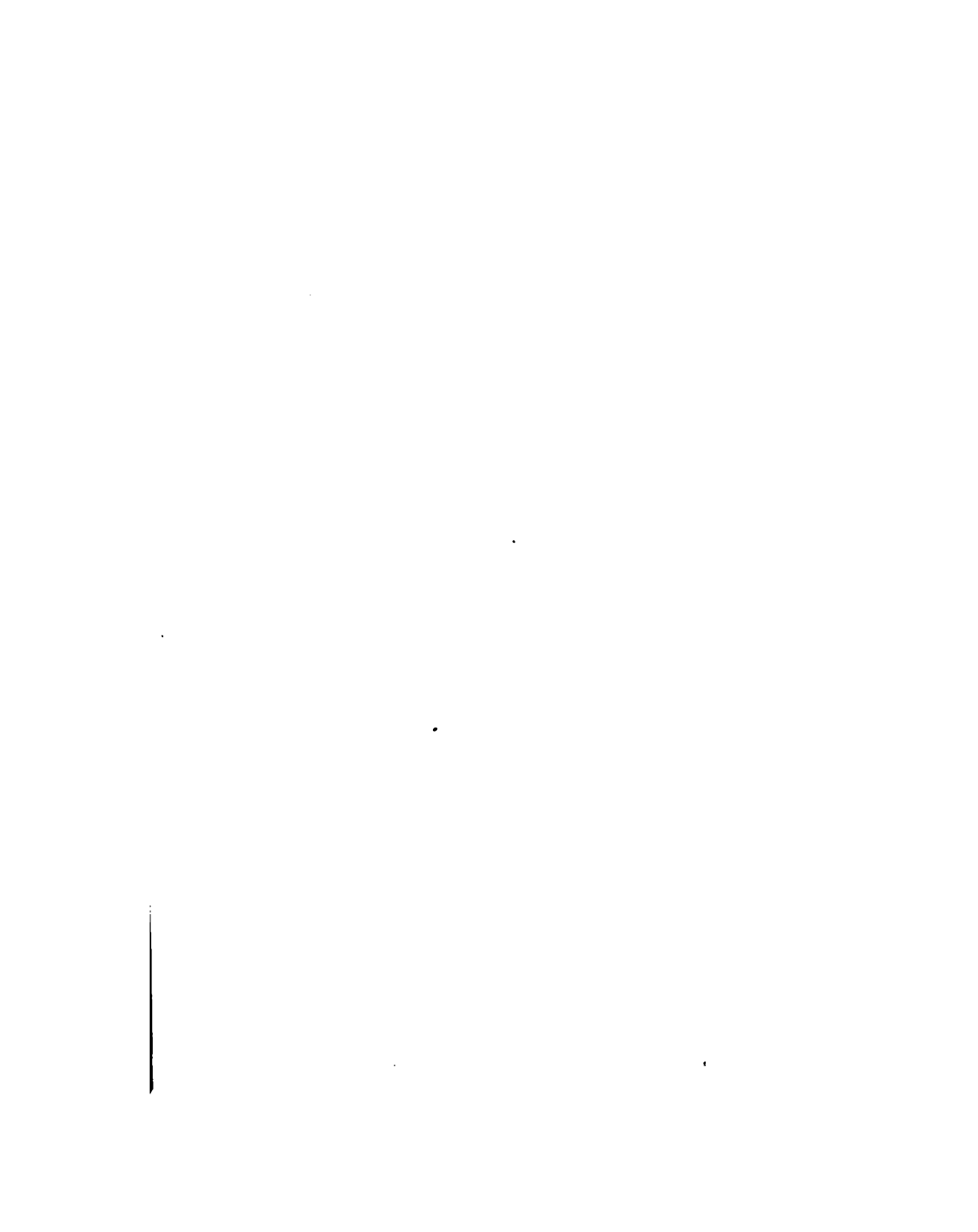
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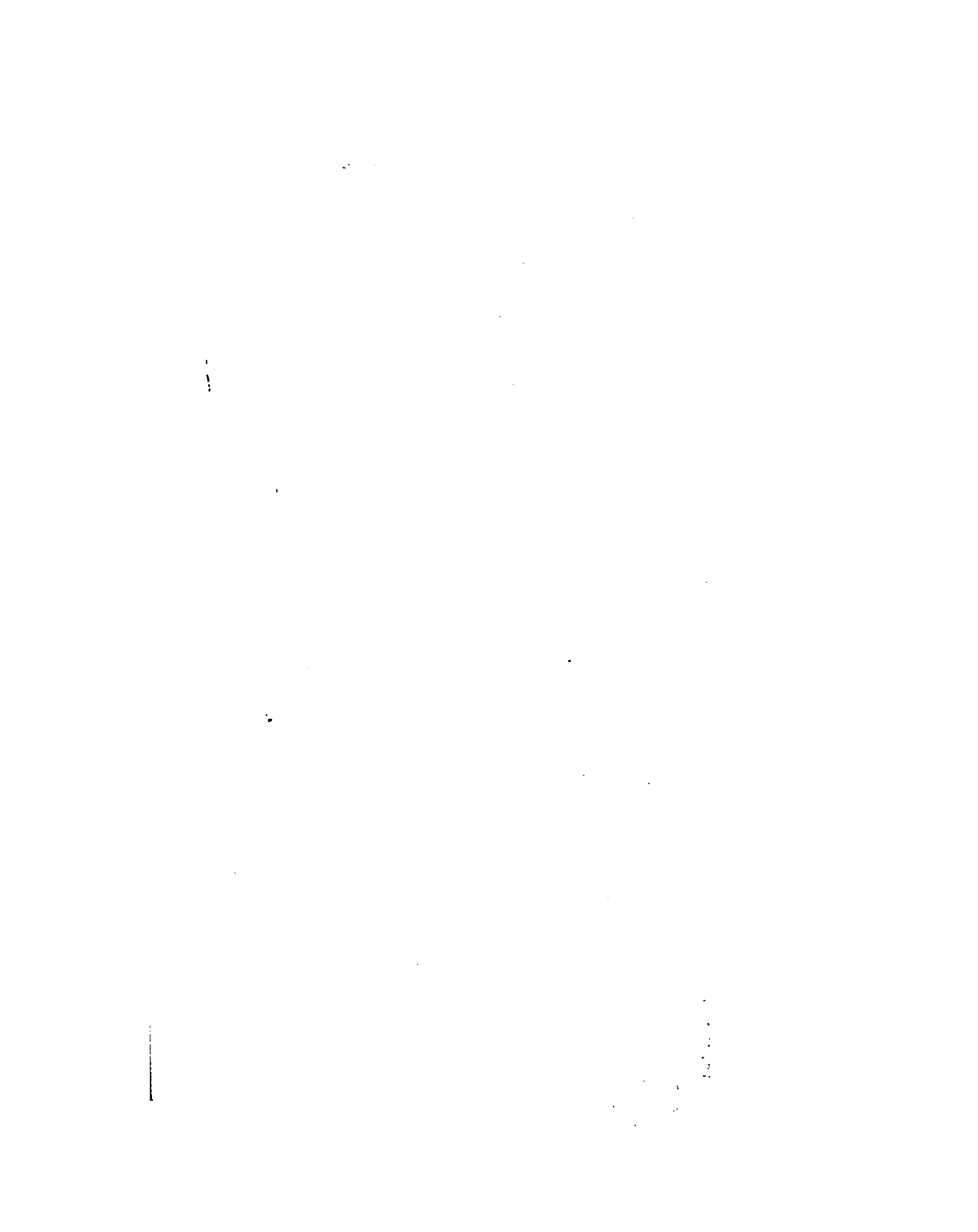












HOUSEHOLD←
→REMEDI

FOR

THE PREVALENT DISORDERS OF
HUMAN ORGANISM.

—BY—

FELIX L. OSWALD, M. D.

*If the right theory should ever be proclaimed, we shall know it by this &
it will solve many riddles.—EMERSON.*

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PREFACE.

—○—
“Consistency is the seal of truth.”

THE progress of Medical Reform has reached a stage where all who can read the signs of the times is a sufficient presage of its victory. Its exponents have obtained a hearing. The transition period of the present age still struggles with the mists of the past, and thousands wander aimless from doubt to doubt, though they have at least ceased to follow the *ignis fatuus* of the night. A spirit of free inquiry is abroad; the morning and light has ever been the ally of Truth. Scrutiny, even the most hostile intent, has, indeed, never prevented the establishment of a doctrine rooted in fact. For the laws of Nature, as they are, reveal and confirm each other, and by just as much as perverse criticism succeeds in attracting the attention of inquirers, it will defeat its own purpose by leading to the discovery of additional evidence in behalf of Truth. “If a theory should ever be discovered,” says Emerson, “we know it by this token, that it will solve many riddles.”

The mere announcement of a new truth has thus more than once led to its general recognition. It was in vain to legislate against the spread of the Copernican theory: the heavens refused to ratify the veto of the Inquisition. Newton's Principia and the doctrines of Evolution could dispense with the favor of critics. They prevailed by "solving many riddles," Nature, Logic and Experience, conspired to insure their triumph; their theorems friend and foe found the solution of mystery which other keys failed to unlock. The gospel of Natural Hygiene, too, can appeal to the evidence of that crucial test. The theory that disease is something essentially abnormal and can be cured by the adoption of less unnatural modes of living cannot hope to avoid a conflict with the representatives of the drug interest, but its apostles have fulfilled the most important part of their mission since they succeeded in setting men to a-thinking. Intelligent men, who for the first time were told that pulmonary diseases are not caused by the low temperature of the outdoor atmosphere, but by the vitiated condition of the indoor air—and could be easily cured without any drugs whatever—men of even more than average intelligence might hesitate to adopt a view so glaringly at variance with the doctrines of the orthodox medicine-school. But on further reflection, they could not help being struck with the significant fact that consumption is a *house-disease*, a complaint attacking sheltered city-dwellers and sparing the weather-beaten herder and hunter. They could not help reflecting on the import of the circumstance that the malady generally ascribed to cold should be so rare among the pastoral natives of Norway and North Scotland, and almost unknown among the Indian tribes of Northern Canada. With the best disposition of loyalty to the faith of their fathers, they could not help drawing inference of their own from the fact that

PREFACE.

Homœopaths and Sanitarians, with a minimum of medicine or no medicine at all, cure all sorts of diseases more permanently as well as quicker and easier—easier in the very degree that suggest the suspicion that drugs would have complicated it of reducing the evil.

And, moreover, such suspicions are strengthened by lead personal experiments. No sophistry is apt to explain away a self-experienced fact that dietetic precautions will completely cure digestive complaints that defy the most elaborate pounds of the drug-store; that fevers which refuse to to "antiseptics" can be controlled by refrigeration; outdoor exercise and sunshine will save city-children from ailments materia medica seemed to have no remedy. there is an effective difference between the convictions of proved experience, and the result of momentary impression. The dyspeptic who mistakes the effect of a stimulant-ferrous a symptom of returning strength, may write a gushing testimonial to the merits of his nostrum, but before his gratitude can exuberate in further efforts, its ardor is apt to be checked by the discovery that the drug-forced excitement is followed by a depressing reaction, leaving him torpid more torpid than before, and that he might as well have tried to cure the exhaustion of a weary traveller with a salt bath of vitriol. But he who has found the clew of the labyrinth to thousands is a hopeless labyrinth of mystery and disappointment, must have lost a primary instinct of self-nature, if he should fail to attempt the rescue even of unwilling fellow-men, even of those who are deaf to the voice of science, but might be persuaded to trust the repeated testimony of their own senses. Quacks cannot appeal to common experience. Sooner or later the load-stars of credulity will

in a mist; and if the present volume should fulfil the
of leading its readers into the safer path of inquiry, it
will not fail to justify the author's faith in the pro
power of Truth.

FELIX L. OSW

MONTVALE SPRINGS, *August*, 1885.

CONTENTS.

CHAPTER I.

CONSUMPTION.

Hygienic Instincts. The Safeguards of Nature. Disease Re-constructive Process. The True Healing Art. Remove the Cause. Pathological Delusions. Mischievous Interference. The Abuse of Drugs. Baneful Habits. Ignorance Rather than Vice the Chief Cause of Disease. Suggestive Statistics. Air as an Antiseptic. Climatic Influences. Roughing It. Pedestrian Cure. Hygienic Delusions. The Night-air Station. Ventilatory Contrivances. Rain Shutters. City Safest Season for City Life. Malnutrition. Correlation of Scrofula and Consumption. Dietetic Remedies. Dr. Zimmermann's Conjecture. Continence. Outdoor Exercise. The Mountain Cure.....

CHAPTER II.

DYSPEPSIA.

Eupeptic Ancestors of the Human Race. Our Sins Against Nature. Dietetic Aberrations. First Symptoms of Indigestion. Warning Instincts. Self-delusions. Sham Remedies. The Influence of "Tonic" Drugs. Poison Fevers. Nature's Ultimate Dyspeptic Children. Indigestion Complicated by Drugs. Physical Exercise. The Refrigeration Cure. Franklin's Prescription. Sponge Baths and Air Baths. Indoor Exercise. Best Time for Convalescents. Vegetarianism. A Popular Misconception. Fruits *vs.* Potherbs. A Gluttony Cure. The One Meal System. Work after Dinner. Best time for Brain-work. Dietetic Remedies.....

CHAPTER III.

CLIMATIC FEVERS.

Summer Diseases. Protective Climates. Immunities of Higher Latitudes. Calorific Artifices. Fever Factories. Thoric Diet. Superfluous Clothing. Midsummer Martyrdom Lesson from Nature. The Fever Secret. Suggestive of Nature's Remedy. The Refrigeration Cure. Yellow Fever A Fatal Mistake. Cold Water *vs.* Quinine. Ice Air. Spanish-American Plan. Disinfectants. Cooling and Her Diet. A Mental Febrifuge. Will-force. The Sheriff of Cambridge Preventive Measures.....

CHAPTER IV.

ASTHMA.

The Brunonian Theory. "Asthenic Disorders." Want of a Cause of Disease. Asthma and its Presumptive Causes. Proximate Cause. Mental Excitement. The Interaction of Mind and Body. Incidental Causes. Over-Exercise. Nausea. etc Antipathies. Asthma Paroxysms. Conflicting Theories. Indirect Remedies. The Movement-Cure. Preventives. Astringent Mental Excitement. Mynheer's Experience. Astringents. Specifics. Narcotic Drugs. Dangerous After-Effects. Misapprehensions. Prejudices. Dietetic Remedies. Effect of an Aperient. Night-Asthma and its Best Preventives. Change of Air. Febrifuges. Remedies. A Crucial Test. Remedial Instincts.....

CHAPTERS V. AND VI.

THE ALCOHOL HABIT.

Stimulants and the Origin of Their Abuse. The Poisonous Abnormal Development of the Stimulant Habit. Physiology. Fallacies. Non-Stimulating Diet. Second Nature. Progressive Tendency of Unnatural Habits. The Secret of the Stimulant vice. Modes of Propagation. Indirect Causes. Misapprehensions.

CONTENTS.

Delusions. Supposed Necessity of Stimulation. Total Abstinence. Uselessness of Palliative Measures. Only Total Abstinence Efficacious than Temperance. Change of Diet. Adjuvant Remedies. Dining Pastimes. Want of Better Amusements an Indirect Cause of Intemperance. International Statistics. Counter Passions. Curable Stage of Alcoholism. Preventive Measures.....

CHAPTER VII.

ENTERIC DISORDERS.

Drugs as a Cause of Disease. Poison Marasmus. A Simple Cure. Drastic Drugs and Their After-effects. Constipation. Gastric Disorders. Baneful Delusions. Dietetic Abuses. Essence Mania. Concentrated Food a Cause of Digestive Disorders. Kitchen Reform. Predisposing Causes of Constipation. Overheated Rooms. Sedentary Occupations. The Remedies of Nature. Abstinence and Fresh Air. Horseback Exercise. Cold Sponge-baths. Close Stools not always a symptom of Disease. Diarrhoea. Always a Morbid Symptom. The Fasting Cure. Arabian Specific. Hunger and Exercise. Astringent Drugs and their Physiological Effects. Maw-worms. Dietetic Specifics. Best Vermifuge. Removal of the Cause.....

CHAPTER VIII.

NERVOUS MALADIES.

Hereditary Influences. Life under Abnormal Conditions. Stimulants and Sedentary Occupations. Narcotic Beverages. Indoor Work. Want of Air and Sunshine. Want of Exercise. Nervousness a City Disease. Removal of the Cause. Manual Labor. A Spleen Specific. Engel's Advice. Mind and Body. Vitiating Humors. A Simple Cure. Palliatives and their Immediate Effects. Radical Remedies. Dr. Boerhave's Conjecture. A Popular Misconception. Work a Condition of Health. Adjuvant Remedies. Sun Baths. *Solaria*. Non-stimulating Exercise. Vertigo and Heart-disease. Unexpected Causes. Black and White Sexual Excesses. Country Life.....

CHAPTER IX.

CATARRH, PLEURISY, GROUP.

The Art of Diagnosis. Strange Delusions. The C Superstition. The Supposed Influence of Cold Air. The Cause of Colds. Indisputable Evidence. The Persister Popular Prejudices. Cold Air and its Remedial Fun Antiseptic Influence of a Low Temperature. Winter I the Adirondacks. Practical Tests. Outdoor Life and it munities from Pulmonary Complaints. Mountain Guides Page's Experiment. Catarrh Specifics. Exercise, Abstin and Fresh Air. "Chronic Catarrh." Caused by Chronic A Pleurisy and its Natural Cure. Dr. Jennings's Ordeal. C its Cause and its Cure. Unventilated Bedrooms. Lary Contagious Disorders of the Respiratory Organs.....

CHAPTER X.

MISCELLANEOUS REMEDIES.

Natural Anæsthetics. Rapid Breathing. Dr. Bonwill's covery. The Perils of Chloroform. Cold as a Pain-Obt Ice Poultices. Apoplexy. Preventive Regimen. Burn Scalds. Simple Sedatives. Chilblains. Dropsy. Caus what Evils. Conditions of Cure. Emetics and their Ha Substitutes. Epilepsy, Curable by Hygienic Treatment. coriation. Fainting Fits. Dr. Engleman's Case. F Affections. Injudicious Remedies. Phlebotomy and its rageous Abuses. Lord Byron's Fate. Gout. A Mech Specific. Headache and Heartburn. Their Gastric C Hyponchondria. Burton's List of Remedies. Happiness Health. Insomnia. Its Safest Cure. Mental Disorders. ness vs. Coercion. Outdoor Labor. The Tuscaloosa Weak Eyes and how to Strengthen Them. Scrofula Rheumatism. Toothache. Hot Drinks. Animal Food a of Caries. Permanent Remedies.....

HOUSEHOLD REMEDIES

CHAPTER I.

CONSUMPTION.

THE organism of the human body is a self-regulating apparatus. Every interruption of its normal functions excites a reaction against the disturbing cause. If a grain of caustic potash irritates the nerves of the palate, the salivary glands try to remove it by an increased secretion. The eye would wash it off by an immediate flow of tears. A larger quantity of the same substance could be swallowed only under the protest of the fauces, and the digestive organs would soon find means to eject it. The bronchial tubes promptly react against the obstruction of foreign substances. The sting of an insect causes an involuntary twitching of the epidermis. If a thorn or splinter fastens itself under the skin, suppuration prepares the way for its removal. If the stomach be overloaded with food it revolts against further ingestion.

These automatic agencies of the organism generally suffice to counteract the disturbing cause, and the sensory symptoms attending the process of reconstruction constitute merely a plea for non-interference. The suppurating tissues push the thorn out.

ward, and resent only a pressure in the opposition. The eye volunteers to rid itself of the dust, but remonstrates against friction. The soaked system of the toper undertakes to eliminate the poison, and only asks that the consequence of the outrage be not aggravated by its repetition; if that plea remains unheeded, it finally takes the form of the emphatic protest we call *disease*. For, even in its urgent manifestations, the reaction against violation of Nature's health-laws is a cry for peace rather than a petition for active assistance in the form of medication. "Accustom yourself in all your pains and aches," says Dr. Jennings, "and in your grave and more distressing affections, to the movement concerned in them in a friendly—designed for and tending to the removal of the difficulty of whose existence you were before unacquainted and which, if suffered to remain and accumulate might prove the destruction of the house you inhabit—and that, instead of its needing to be cured, it is itself a curative operation; and that what so-called *disease* lies back of the symptoms which, in fact, are made for the express purpose of removing the real disorder or difficulty" ("Medical Reform," p. 10).

Drugs can rarely do more than change the form of the disease, or postpone its crisis. Mercurial purgatives, which conscientious physicians have almost ceased to regard as a lesser evil of an alternative, was once a favorite prescription for all kinds of cutaneous diseases: it cleansed the skin by driving the ulcers from the surface to the interior of the body. A dose of a purgative counteracts constipation—for a day or two

CONSUMPTION.

inducing a still less desirable state of artificial dys-
tery. Combined with venesection the same "remedy"
will suppress the symptoms of various inflammatory
affections by compelling the exhausted system to pro-
pone the crisis of the disease; in other words, by
interrupting a curative process. The best way to "as-
sist" Nature in such cases is to give her fair play
forbearing to meddle with her restorative method
and by removing the predisposing cause of the dis-
order. Diseases plead for *desistance*, rather than for
assistance, and the discovery of the cause is the dis-
covery of the remedy. For there is a strong upward
and healthward tendency in the constitution of every
living organism: Nature's revenge is but an enforced
condition of peace. *Pain, discomfort, and even
premature loss of organic vigor, are the attendant sym-
ptoms of a reconstructive process, and their permanency
a presumptive proof that, in spite of such admonitions,
that process is a struggle against a permanent obsta-
cle or against a constantly precatd frustration of its effec-*

To this self-regulating tendency of the living
organism, certain disorders (the *lues veneris*, pruri-
tias, etc.)—probably due to the agency of microscopic pa-
rasites—oppose a life-energy of their own, and have
thus far resisted the influence of hygienic or non-medi-
cinal remedies. But, with that exception, it may
be laid down as a general rule that the virulence and
duration of every disease are proportioned to the
degree and the *contumacy* of the provocation—a puni-
shment proportioned to the degree of the guilt,
should say, if Nature did not administer her code
under the principle that ignorance of the law constitu-

no excuse. The ignorant mother who, with the best intentions in the world, forces her child to sleep in an air-tight bed-room, incurs the penalties of an exorable law as surely as the vicious father tempts his child to a life of infamy.

In the aggregate, hygienic errors cause more mischief than hygienic recklessness; and, if we would know the most baneful of those errors, we must inquire after the cause of the most fatal disease. The alcohol-habit slays its thousands every year; but statistics prove that human life has a more terrible enemy. The proportion of deaths from all diseases that may be ascribed to the effects of intemperance relates three and a half to ten in Northern Europe, and four to ten in the United States and Canada—to the mortality-rate of PULMONARY CONSUMPTION. With counting acute pneumonia and other fatal lung diseases, tubercular phthisis alone claims yearly one out of 410 to 415; or an aggregate which, for the United States, has been estimated at 94,000; in Great Britain and Ireland, 110,000 (or one of every 30 inhabitants); in France, 80,000; in European Russia, 105,000; in Northern Germany (including the provinces of Prussia), 82,000. And the quantity of the mischief is still aggravated by its quality. Pulmonary consumption fulfills no scavenger's mission: the voracious is, withal, the most fastidious disease selects its victims from the most industrious of the noblest nations; hard-working mechanical supporters of large families, bread-winners and prize-winning students are its victims. For the last fifty years its raven

steadily increased; but the excess of the evil has finally revealed the means of deliverance, and the worst scourge of the human race has one redeeming feature: that its cause, and consequently its proper cure, have at last been determined with absolute certainty. Not more than fifty years ago the consumption-problem was still *cruæ medicorum*; the disease seemed almost unaccountable and wholly incurable. Practical physicians had ascertained the value of certain secondary remedies, the prophylactic influence of fat and phosphates (cod-liver oil, etc.), and of chest-expanding gymnastics; but they had failed to recognize the great specific. Misled by the most prevalent of all popular delusions—the Cold-Air Fallacy*—they ascribed consumption to the influence of a low temperature, and tried to cure it by sending their wealthier patients to a warmer climate and the poorer to an air-tight sick-room. There were hospitals for consumptives where invalids were nursed with a care that would have insured recovery from almost every

* "Dry and intensely cold air preserves decaying organic tissues by arresting decomposition, and it would be difficult to explain how the most effective remedy came to be suspected of being the cause of tuberculosis, unless we remember that, where fuel is accessible, the disciples of civilization rarely fail to take refuge from excessive cold in its opposite extreme—an overheated, artificial atmosphere, and thus come to connect severe winters with the idea of pectoral complaints..... They avoid cold instead of impurity, just as tipplers, on a warm day, imagine that they would 'catch their death' by a draught from a cool fountain, but never hesitate to swallow the monstrous mixtures of the liquor-venders" ("Physical Education," p. 80; compare pp. 85, 98, and 248).

other disease, but here all calculations were deranged by the result of one wrong factor; the chief error of the treatment was supposed to depend upon the exclusion of every draught of fresh air.

But statistics have at last exploded that delusion. It was ascertained that consumption is essentially a *house-disease*. North or south, east or west, the death-rate from lung-diseases was found to be in exact proportion to the percentage of the inhabitants habitually engaged in sedentary and in-door occupations. Towns suffer more than the rural districts, cities more than country towns, manufacturing towns more than commercial and semi-agricultural towns, weaver-towns more than foundry-towns. "If a perfectly sound man is imprisoned for life," says Dr. d'Arblay, the Belgian philanthropist, "his lungs, as a rule, will first show symptoms of disease, and show his misery by a hectic decline, unless he should commit suicide."

Moreover, it was shown that in non-manufacturing (uncivilized or pastoral) regions a low temperature seems to afford a protection against pulmonary disorders. Professor Jacoud found that, at an elevation of four thousand feet, the cold Alpine districts of Northern Savoy are almost free from lung-disease. The medical statistics of the Austrian army have established the fact that recruits from the Tyrol, Carinthia, and the Carpathians (Transylvania) from the highest, and consequently the coldest provinces of the empire, enjoy a remarkable immunity from tubercular consumption. Dr. Hjaltelin, a physician of Iceland, states that among the inhabit-

that country pulmonary diseases are almost unknown.

But in the temperate zone consumption-statistics alone would enable us to infer the amount of dust-breathing and in-door work incidental to the pursuit of each trade. In the Italian cities that have largely engaged in the production of textile fabrics, consumption has become as frequent as in Lancashire. Irrespective of race-differences and special dietic habits, the habitual breathing of vitiated air leads to the development of pulmonary scrofula. And science has furnished the *rationale* of that result. Physiology has demonstrated that air is gaseous food, and respiration a process of digestion. The atmosphere furnishes the raw material of the pulmonary pabulum; at each inspiration the organism of the lungs imbibes the oxygenous or nutritive principle of the air-draught, and excretes the indigestible elements. By breathing the same air over and over again, the atmospheric aliment becomes azotized, i. e., depleted of its life-sustaining principle, and therefore unfit to supply the wants of the animal economy. The continued inhalation of such vitiated air fills the respiratory organs with indigestible elements, which gradually accumulate beyond the dislodging ability of the vital forces, and at last corrupt the tissue of the congested organ and favor the development of parasites. Consumption is one of the diseases that seem to confirm the tenets of the germ-theory. A tubercular diathesis favored by stagnant impurities of the circulatory system, by a warm and humid climate, and counteracted by cold air and other antiseptics. Six years ago a German physician demonstrated that the progress of

pulmonary scrofula can be arrested by a pro-
jection of carbolic acid ; and one of his con-
temporaries has lately ascertained that the tubercle-virus is a
microscopic parasite, that multiplies like the
prolific mushroom. The first development
of lung-devourers would seem to amount to a
sentence of speedy death; yet their fecundity hardly
amounts to that of certain intestinal parasites, and the
physician has methods of her own for dealing with such
parasites, and is ever ready to begin the battle for life
on the sole condition that we do not complicate the
ties of the undertaking by counteracting her
efforts, or by perpetuating the influence of the origin.
Cease to feed the lungs with azotic gases,
and Koch's animalcula will starve and disappear ;
as maw-worms will starve and disappear if we
substitute a pork and sourcrot diet for bread and apples.

About the comparative advantages of a dry
or moist and tropical climate, opinions are
divided, with a preponderance of arguments in favor of the
former ; but so much is certain, that in all
parts of the temperate zone the disease known as
consumption is caused by the breathing of
stagnant air and can be *subdued* by out-door exercise.
In certain cases *cured* would be an ambiguous term.
The respiration of vitiated (azotized and dust-im-
pregnated) air results in the corruption of the pulmo-
nary tissues, and finally in a process of disintegration
which fills the structure of the lungs with ulcerous
cavities. These cavities often cicatrize, but it is not
certain that they can be entirely healed, i. e., that the
tissues can be reproduced. Yet in all but

stages the *progress* of the disease can be arrested by out-door life alone. The voice of instinct adds its testimony to the teaching of science. In the language of our senses, every feeling of discomfort suggests its own remedy. If the proximity of a glowing stove begins to roast your shins, the alarmed nerves cry out—not for patent ointments, not for anti-caustic liniments and “pain-killers,” but for a lower temperature. Nothing else will permanently appease them. Millions of prisoners, school-children, and factory-slaves, pine for lung-food as a starving man yearns for bread; and that hunger cannot be stilled with cough-pills, but only with fresh air.

There are adjuvant remedies which will be noticed hereafter, but their co-operation is not indispensable. Without a sufficient supply of wholesome food, without warm clothes, without domestic comforts, under the disadvantage even of excessive hardships and protracted fasts, a three months' mountain-excursion, with or without tents, will cure all the symptoms of the disease with the exception of an accelerated pulse and a panting respiration during active exercise. Canadian trappers who leave their supply-camp with a bad cough, get rid of it on the fifth or sixth day “out.” They may get foot-sore, and, if game is scarce, hipped and homesick, but the feeling of halesness about the chest continues. Night-frosts do not affect it. Fatigues rather improve it. They may wake up with a feeling of frost-cramp from their chilblained toes to their shivering knees, but the lungs are at ease; no cough, no asthmatic distress, no stitch-like pains, no night-fever. An old campaigner

would laugh at the idea of "colds" being taken in the open air. He knows that they germinate in close bedrooms and flourish in musty beer-shops, but vanish in the prairie wind. If he is a government teamster and sells his meat-rations for brandy, he may know that sun-heat and fire-water are burning his candle at both ends; he may see trouble ahead, but he is sure that it will not come in the form of lung-trouble. Koch's lung-parasites do not thrive upon a fresh-air diet.

After the *tuberculous cachexy* has once been subdued, a moderate daily dose of Nature's specific will suffice to maintain, or even to fortify, the recovered vantage ground. A foot-trip across the continent would regenerate the respiratory organs, but even a stroll across the next meadow will be booked to our health account. The human organism is a savings-bank of the elements of vital strength, and in the form of fresh air it accepts the smallest deposits. In string of circumstances, an hour per day of active exercise will help to keep the lungs *catarrh-proof*, and an hour may even be subdivided. Buy a large umbrella and make it a rule to walk on your way to market, your place of business, or to church; or at least, half of the way, if the distance is great and your time is limited. In the evening take a large satchel and go out of your way to patronize a good fruit-dealer, a vender of old books, or fill the satchel at home with the blessings of a poor family in the factory. Street-rambles should have a proximate object. Regulation-walk on general principles is too easily shirked on very slight pretexts. If you have

of your own, fence off a digging corner and prospect for geological specimens. If you have a wood-shed, import an old stump-log (hickory preferred), and do not be too particular about keeping your axe sharp. Ventilate your office ; keep a stove and an overcoat in your workshop, and open the windows every now and then. Open the dining-room windows in the forenoon and the kitchen-windows in the afternoon ; no force-ventilator can compete with the effect of a direct influx of atmospheric air. If you teach a class or work in a warehouse or counting-house, prevail upon the managers to ventilate the place during the dinner-recess, or else try to do your work in the airiest corner, near a window or near the door of a vacant side-room or hall. In ill-ventilated rooms the azote miasma has its centers of density that can be avoided with a little management.

But at all events get rid of the *night-air superstition*, and enjoy the blessing of an airy bedroom—the luxury, I may add. A natural instinct may be suppressed, but needs but little encouragement to resume its normal functions, like a river returning to its ancient channel. Thus the fresh-air instinct. In families cursed with the night-air superstition, children are often fuddled with miasma till they prefer it to fresh air, and dislike to sleep near an open window. But, in a single month, that aversion can be changed into a decided predilection, till the cool breath of the night-wind becomes a chief condition of a good night's rest, and the closing of the bedroom windows creates a feeling of uneasiness not unlike the discomfort induced by an attempt to sleep

with your head under the blankets. In the sleepers of the French village-taverns, where, after winter, the window-sashes are actually nailed down, the children of a hygienic home would pine for a draught of oxygen as a sweltering traveler thirsts for fresh water.

Besides open windows, Dio Lewis recommends an open fire-place and a good wood fire all night long, that is a matter of taste: an extra blanket will serve the same purpose, and the danger of damp clothes* in winter has been as strangely exaggerated as have the perils of cold drinking-water in mid-summer.

In stormy nights a half-closed "rain-shutter" (a window-blind with broad bars) will keep the room perfectly dry without excluding the air. If the mercury sinks below zero, close every window in the house. Intense cold is a disinfectant, that purifies even the air of the hide-covered dungeons where the natives of the polar regions pass the long winter nights. In the dog-days, on the other hand, do not be satisfied with anything less than a thorough draught; open every window in and around the room. Consumption has been recognized as a zoonotic disease, and sultry heat favors the development of morbid germs.

Where the prejudice against open windows

* "I shall not attempt to explain why damp clothes are more likely to produce cold, rather than wet ones, because I doubt the fact; I believe that neither the one nor the other contributes to that effect, and that the causes of 'colds' are totally independent of wetness, or of cold" (Benjamin Franklin's Essays," p. 216).

been cured, the cold-air superstition often lingers in the form of a repugnance to *out-door exercise in winter*. After the last of October thousands of convalescents suspend their morning rambles, and the hectic symptoms soon reappear. The aggravation of the disease may scare the patients into a warmer climate, but most of them would rather breathe sick-room miasma than the winter air of a high latitude.

The truth is, that the prophylactic influence of the out-door atmosphere depends less upon its temperature than upon its purity, and for the open-air treatment of lung-diseases, a cold, clear winter morning is more propitious than a dusty summer day. The contrast is shown in the effect. A single hour's exercise in the skating-ring, or under a snow-covered wood-shed, a sleigh-ride, a brisk walk through an ice-glittering park, will ease the respiratory organs more effectually than a week of languid rambles through the dust and heat of an Italian *campagna*.

In larger cities, especially, a good frost defecates the lung-poisoning effluvia of the slum-alleys, while heat aggravates their offensiveness. In the cities of our Atlantic seaboard July is about the most unfragrant month in the year, and August the dustiest. Soon after the summer solstice wealthy invalids should, therefore, pack their camping-gear for the Alleghany highlands, and arrange for their return by the end of October. Patrons of a transatlantic passenger-line had better go a month sooner, to avoid the midsummer night-mares of a superheated cabin. European tourists can combine the useful with the agreeable by doing their sight-seeing afoot; but they

should remember that Alpine morning breeze does not always neutralize the bedroom air of a German tavern, and that sultry heat aggravates the effects of mal-ventilation.* The German, and Russian shepherds stay the whole summer with their flocks, but, as a class, are nevertheless especially subject to pulmonary diseases, and for the following reason: They pass the night in a *Schlag*, a sort of ambulance-box, eight feet by four feet high, without windows, but with a tight sliding-door. This door the ill-advised peasant shuts after dark, and breathes all night the air of his Black Hole of Calcutta on wheels. In the morning he awakens with a hacking cough, added to a profuse perspiration and a feeling

* "The rate of life, and consequently the amount of diffusion, in any organized structure depend in great measure on the temperature at which it is maintained; and thus it is that the production of carbonic acid from this source, at a high rate of vital activity, is much more rapid in warm than in cold-blooded animals, and that the former suffer more speedily than the latter from the privation of air. But, when the temperature of the reptile is raised by external heat to that of the mammal, its need for respiration increases, owing to the augmented waste of its tissues. When, on the other hand, the temperature of the warm blooded mammal is reduced, in the state of hibernation, the level of the cold-blooded reptile, the waste of its tissues does not increase to such an extent as to require but a very small exertion of its respiratory process to get rid of the carbonic acid, which is one of its chief products. And in those animals which are capable of retaining their vitality when they are frozen, vital activity and the process of disintegration are alike suspended, and consequently the carbonic acid to be set free" (Gurney Smith, "On Respir

CONSUMPTION.

sea. The air of the mountain meadows gradually relieves the other symptoms, but not the cough, which finally becomes chronic, and, with exquisite facility for the attainment of a patriarchal longevity, the slave of the night-air superstition dies in the forenoon of his life.

MAL-NUTRITION, combined with a tubercular diathesis, hastens the macerative (or "hectic") stage of the disease. Air is gaseous food, and the body of an infatuated man who stints his lungs in life-air is thus suffering under a compound system of starvation. Hence the occasional rapidity in the development of tubercular consumption, and its frightful ravages in the homes of the poor, and in the stuffy tenements of French dress-makers and Silesian weavers, where perpetual air-famine aggravates the want of breath.

Fat is the best lung-food, and, among all fat-containing substances, fresh, sweet cream is about the best, and salt pork the worst. There is a close connection between consumption and the various scrofulous affections, "pulmonary scrofula" is, indeed, sometimes used as a synonym of tuberculosis. The French physiologist Villemin found that in Guinea-pigs, rabbits, and other animals, the symptoms of tuberculosis can be artificially produced by a repeated inoculation with scrofula virus, and in the children of scrofulous parents the inherited taint often leads to the development of a malignant form of tuberculosis. Consumptives should therefore avoid all seductive articles of diet; salt meat, pickles, indigestible-made dishes, rancid fat, pungent spices, cheese, and all kinds of intoxicating liquors. A predilection

for such diet is often encouraged by the circumstance that in the insipient stages of consumption it is indulged without apparent inconvenience in the digestive organs. The victims of pulmonary disease often enjoy an omniverous appetite. But they should not forget that their diseased lungs act as an abode for all morbid matter, and that the immunities of the digestive apparatus are purchased at the expense of the respiratory organs.

Pathological conditions, involving an abnormal waste of tissue, require, indeed, an extra supply of nutritive aliments, and the patient may claim the right to indulge his appetite in regard to the quantity of his food, but he should earn that right by restricting himself in regard to the quality. His diet should be nutritious, non-stimulating, and slightly aperient; the regulation of the quantum may be trusted to the promptings of Nature. The first full meal, however, should not be taken before the morning exercise. Those who are in the habit of expending the energy of the day's prime on the digestion of a massive breakfast may palliate their craving for a glass of sweet milk, or a piece of brown bread bed with treacle or cream. Fresh cream, Grains, bread, honey, beans baked with butter instead of pork, and a liberal dessert of such fruit as grapes, pears, strawberries, or stewed prunes at 1 p. m. At six or seven a similar meal; for the sake of variety, perhaps buckwheat-cakes instead of bread and apple-butter instead of honey. In point of quantity let the supper rival the dinner, with the proviso that the rules of the bed-room hygiene shall be

CONSUMPTION.

observed, for, if the vigor of the digestive organs aided by a liberal supply of oxygen, it is a fallacy to suppose that the night is an unfavorable time for the assimilation of a hearty meal. Animals rest after repletion, and some of them never sleep till they have a good meal to digest. There is no doubt that after meals neither mental nor muscular exertion is favorable to the performance of the organic functions which concur to effect the nutrition of the system. And, if the stomach can bear it, before going to bed an extra glass or two of sweetened cream may be taken—not as a food, but as a medicine. It is an established fact that *fat counteracts a tuberculous diathesis*. The inhabitants of the polar regions consume enormous quantities of non-nitrogenous food. Our negroes, whom the climate of the United States must be seen to be semi-polar, lose no opportunity to gorge themselves with fat meat. The poor monkeys of our Northern menageries are ravenously fond of sweet milk and cream. Instinct teaches them that fat stifles tubercles. The dairy-districts of the chilly Netherlands enjoy a remarkable immunity from pulmonary diseases. Sándor Czoma, the Hungarian traveler, who passed several years in the highlands of Thibet, states that the Thibetan (Buddhist) monks prolong the lives of consumptives by heroic doses of clarified butter.

The Æsculaps of the future will issue their almanacs with a list of household remedies. The knowledge of a few simple dietetic correctives would enable the physician to dispense with the use of costly patent medicines. COMMON SUGAR is an effective receipt for depurating the morbid secretions of the air-passages

It relieves hoarseness, and in bronchial affe alleviates the painful, dry cough, by loosening phlegm and relaxing the stringency of the lary muscles. Various kinds of sweet fruits share this property, and the most palatable form of the syrup is perhaps the saccharine element of good IRRAISINS. California raisins are now retailed at twenty-five cents a pound, and half a pound of medium quality can be warranted to afford as much relief as a dollar-bottle of the best cough-syrup. Besides, the demulcents of Nature induce no unpleasant after-effect, while repeated doses of medicinal syrup soon become nauseating. A quart of cold water, either pure or slightly sweetened, taken just before going to bed, is a pulmonary febrifuge, and a reliable preventive of night-sweats. It also promotes the easy breathing which to far-gone consumptives comes otherwise only after hours of troubled sleep. Dyspnoea, or want of breath, like peptic asthma, can be greatly alleviated by an abstemious diet: water-melons and buttermilk in summer, and baked beans, peas, or lentils, in winter. Combined with outdoor exercise, digestive correction often affords permanent relief from the distress of chronic affections, for that dyspnoea does not necessarily indicate an irremediable waste of pulmonary tissue is proved by the fact that it often occurs, and permanently disappears with the symptoms that characterize the transient affections of the upper respiratory passages.

Permanence of relief is the best criterion of the value of a remedial agent. The cathartics are

holic stimulants of the old-school practitioners suppressed the symptoms of the disease, but the supposed relief was nothing but an interruption of a reconstructive process. While the vital forces were fighting the battle of life against the chronic enemy, we obliged them to suspend their efforts in that direction, in order to meet a more imminent danger at another point; for Nature can fight only one disease at a time. If an asthmatic person is seized with a climatic fever, the respiratory trouble is temporarily suspended: Nature, as it were, postpones the asthma-case in order to give her undivided attention to the fever-affair. Fever and ague give way to small-pox, a drunken man can be "sobered up" by an heroic dose of arsenic, and intoxication relieves the pangs of neuralgia, gout, and rheumatism—for a day. But, at the end of the day, the mal-exorcised demon returns with seven accomplices, and Nature has to resume the original struggle with diminished chances of success—shorn of just as much strength as she had to expend in combating the additional enemy. The exorcist then repeats his dose, but finds that he has to increase the quantum: the exhausted system at last ceases to react against the provocation, and in order to obtain temporary relief the patient must resort the stronger and stronger stimulants.

There is a more excellent way: trust in the wisdom of Nature, and a careful husbanding of the vital forces — by CONTINENCE, for instance. Sexual excesses, combined with mal-nutrition, are such potent allies of pulmonary consumption that Dr. Zimmermann calls tubercles "*Thranen der Armut und Reue nach*

innen geweint" ("tears of poverty and repentance wept inward"). That dreadful disease known as "galloping consumption" often results from the operation of the three chief enemies of the human organism: impure air, intemperance, and indolence. The causes of all violent (or painfully repressed) MENTAL EMOTIONS should also be avoided. Give gambling-houses a wide berth. Dependent quarrels, especially with superiors. Suppressed anger has often resulted in fatal hæmorrhages. Convalescents need all the sleep they can get, and must abstain from night-work and nocturnal revels. They should also avoid crowded assemblies, not because of excitement and the temptation to late hours only, but on account of the DANGER OF INFECTION. For consumption is a contagious disease, though not in the conventional sense of the word. The matter is that the germs of tuberculosis have no direct effect upon the respiratory organs of a healthy person, though on record where the constant breathing of a tainted atmosphere has communicated the disease from husbands to wives, or from patients to attendants. But, after a tubercular diathesis has once been developed, the diseased lungs become extremely sensitive to the *contagion* of all pulmonary diseases, and tubercle-seeds, as Dr. Koch's theory would explain, fall upon a receptive soil—the sores of the half-healed *vomicæ*. Dr. Koch, of Breslau, traced the propagation of the principle of the tubercle-virus to the development of a microscopic animalcula, and I predict that other parasites will yet be discovered in the morbid discharges of the upper air-passages. This sensi-

continues after the idiopathic symptoms of the disease have been brought well under control; and observation would show that a ten minutes' interview with a sufferer from catarrh, or a short visit to a reading-room, where swollen-faced children are hacking and coughing, suffices (often before the end of the first day) to prove the contagiousness of those affections.

But if the danger is recognized in time, the virus can be *worked off* by out-door exercise. Catarrhs can thus be nipped in the bud. I speak from personal experience: I have tried the experiment at all times of the year, and always with the same result, even in one case where my plan of operation involved a ten hours' march across a snow-covered mountain-range. I reached the camp foot-sore and almost feverish with exhaustion; but the catarrh, too, had exhausted its resources, and the next morning I awakened with half healed feet and woolly-cured *bronchi*. One day of pedestrian fatigues had saved me two weeks of pulmonary distress.

Next to fresh air, active exercise is the best prophylactic:

“Dem Athleten wird vergeben
Was der Schwächling theuer büsst.”

By stimulating the action of the circulatory system, gymnastics promote the elimination of morbid matter; *disease-germs are removed before they have time to take root*. Every gymnastic apparatus is worth dozens of patent medicines; the beneficial effect of the “movement-cure” is permanent, as well as safe and prompt. The five gymnastic specifics for pulmonary

disorders are dumb-bells, Indian-clubs, long-hoars, spears, and a grapple-swing. *Ger-woerj* spear-throwing, is a popular pastime of the T Hall. The missile is a javelin of some tough about ten feet long and as thick as a common handle. It terminates either in an iron lance or in a brass knob, to keep the wood from splint. A rough-hewed log-man, with a movable head, the target, and the problem is to decapitate the from a distance of about twenty paces for tyro forty for veteran lancers. The shock of the thrpands the chest, and has a magical influence (stitch-like pains of a lingering pleuritic affectic is a mechanical anæsthetic for all kinds of pulm disorders. The grapple-swing consists of a p iron (leather-covered) rings, suspended at a hei about four feet from the floor, and affords opp ties—if not *facilities*—for a great variety of ac exercises. The complex evolutions are son arduous, but even the simplest use of the cont —swinging to and fro like a pendulum—ex mitigating influence on the strictures of the r tory organs, dyspnœa, and asthmatic troubles. *de mieuw*, trundling a wheelbarrow, with a grad crease of the load, chopping or sawing wood, or bing out stumps with a mattock, is worth ship of cough-sirup, though it is doubtful in what (the individual predilections of the patient migl his choice.

But people of means and leisure can reme doubt by making out-door exercise pleasant to be preferable to any drug; and the followi

would combine, under the most favorable conditions, the best atmospheric, gymnastic, and dietetic remedies for the disorders of the respiratory organs.

CHAPTER II.

THE MOUNTAIN-CURE.

Carbonic acid, the lung-poisoning residuum of respiration and combustion, is heavier than the atmospheric air, and accumulates in low places—in wells, cellars, in deep, narrow valleys, etc.—and often mingles with the malarious exhalations of low, swampy plains. On very high mountains, on the other hand, the air becomes too rarified to be breathed with impunity. It accelerates the respiratory process, and the amount of air inhaled at one inspiration does not contain oxygen enough to supply the wants of the organism at the ordinary rate of breathing, and is therefore especially distressing to diseased (weak) lungs, whose functions are already abnormally strained, and cannot be further stimulated without straining their mechanism.

In the temperate zone, the purest and at the same time most respirable air is found at an elevation of about four thousand feet above the level of the sea, an altitude corresponding to the midway

the European Alps and the average summit regions of our Southern Alleghanies. The broad table lands of the Cumberland Range are several hundred feet above the dust* and mosquito level. Between the thirty-fourth and thirty-sixth degrees of north latitude the elevated plateaus have the further advantage that their climate equalizes the contrasts of the season: it mitigates the summer more than it aggravates the winter. Southerly winds predominate, and melt the snow with the same breezes that cool the midsummer weeks, for in the dog-days the Mexican tablelands are considerably cooler than our Northern prairie States. In the Alps of North Carolina, Tennessee, and Northern Georgia land and labor are so cheap that even people of moderate means can build a sanitarium of their own. It has been often observed that the moral effect of a residence at a place where consumptives congregate is not favorable to the cure of the disease; and, moreover, a private establishment lessens the danger of contagion. The cheapness of living may be inferred from the fact that at the Chalybeate Springs of Benton, Tennessee, where board-rates vary from fifty to seventy-five cents a day, the visitors from the surrounding country towns, nevertheless, prefer to board on the co-operative plan: the proprietor of a kitchen-garden furnishes vegetables, a stock-farmer fresh meat, the

* While the treeless plateaus of the Pacific slope are in a chronic state of sand and haziness. In Southern Colorado, too, every high wind shrouds the mountains in whirls of a kind of sand-dust that can be felt under the eyelids and between the teeth.

owner of a carriage free transportation, and every family has a little cottage of its own. Summer-guests who come to drink mountain air can build their cabins wherever they find a convenient plateau, and contract with the next farmer for all the comestibles they may need in addition to their canned provisions. They can cook at their own fire place. A log-house can be made as airy as any tent, and is out and out more comfortable. A rough-hewed porch-roof, projecting like the veranda of a Swiss *chalet*, will keep the cabin both dry and airy; square holes in the center of each wall can serve as windows in fine weather, and during a storm can be shut with a sliding-board. Between May and November the winds in the Southern Appalachians come from the south or southwest, nine days out of ten, and in order to get the full benefit of pure air, the house should face one of the thousand promontories of the southwestern slope that rises in terraces from the "Piedmont counties" of North Carolina and Northern Georgia, with a free horizon toward the plains of the Gulf coast. Have the door on the south side, and keep it wide open all night as well as the windows or louvres in the opposite wall. If the windows do not reach to the ground, hang your bedclothes upon a hurdle-bedstead rather than on the floor, in order to enjoy every afflatus of night-breeze. Night and day one can thus breathe the mountain airs that have not been tainted by the fumes of earthly things since they left the pine forests of the Mexican Sierras. Every inspiration is drawn from the fountain-head of the atmospheric ocean.

There is no need of living on oiled sardines.

the brooks are full of speckled trout. Those who *must* break the commandment of Brahma (and the highland air confers certain immunities), may devour their humble relatives in the form of wild-turkeys, quails, and opossums ; but the products of the vegetable kingdom are cheap, and diversified enough to make up a tolerable *menu*. Sweet potatoes at twelve cents a peck, string beans fifteen, green peas twenty-five; strawberries ten cents a quart, roasting-ears a cent a piece, brown beans a bushel for one dollar—Dalton (Georgia) market-prices. “Semi-annual” comestibles in proportion ; eggs eight cents a dozen, butter twenty cents a pound in mid-winter, and ten cents in summer. Milk is a drug in the market ; a good milch-cow can be hired for a dollar a month, a cow boy for two dollars and his board. Whortleberries are sold at five cents a quart, but the pleasure of picking them is worth a great deal more. The lamest and weakest can join in that sport, for the shrub attains a height of three feet, and thus saves one the trouble of stooping.

About an hour after breakfast the colony (or family) should muster for out-door exercise. The choice between the various opportunities for entertaining work is the only difficulty, for Nature has provided them in embarrassing profusion. Expert bee-hunters can find four or five hive-trees in a single day. The chesnut-forests of the upper ridges are full of squirrels, and with a dog, a sack, and a good axe, it is not difficult to catch one alive, and turn it over to the quartermaster of the pet-department. Climbing trees is an exercise that brings into action nearly every muscle of the human body, and like the *mal de monte*, the

shudder that seizes the traveler at the brink of Alpine precipices, the dizziness that takes away the breath, returns it with interest and is a mechanical asthma-cure. Entomologists may combine the gratification of their mania with useful exercise by rolling logs in quest of big-horn beetles. Log-rolling and tumbling rocks from the tops of projecting cliffs is the spice of life in the engineering enterprises which a campful of male North Americans are sure to set afloat—as enlarging the entrance of a cave, constructing a graded trail to the next spring, to the next wagon-road, or to a favorite lookout point. Enterprises of that sort involve a good deal of grubbing and chopping, but also many interesting discoveries—geological specimens, an unknown chrysalis, new varieties of ferns and mosses. As the work progresses it becomes a pastime rather than a task, and novices feel inclined to agree with Engineer Spangenberg, that “with a little management a first-class railroad can be built to any point of the continent earth.” There is no cliff that cannot be circumvented or terraced. With a slight curve of the road an apparent obstacle can be utilized as a by-work. In fallen trees the removal of a few side branches develops revolving faculties. A pickaxe makes a whole wilderness plastic.

The summer air of the highlands makes outdoor life a luxury, but the chief advantage of the pastime is this: The stimulus of a pleasant pastime enables a man to beguile himself into about ten times as much exercise as he could stand in the Turner-hall. Visitors of a hygienic gymnasium take their turn at the horizontal bar as they would swallow

of a public dispensary: they know that it is a lesser evil, they know that the road to Styx is the alternative, they intend to come every day, but the intolerable tedium of the crank-work exercise soon shakes that resolution. The motive for exertion is too abstract; it lacks the charm of progressiveness and the stimulus of a proximate, tangible, and visible purpose. The sham competition of a regiment of invalids under the command of a *turn-master* does not much sweeten the bitter broth; it is still crank-work, minus the club of the jailer, and nine out of ten hygienic gymnasts will soon find or make a pretext for discontinuing their visits. How many out of a hundred pupils of a young ladies' seminary would dream of performing their "callisthenics" at home? They would as soon walk on all-fours, or ride on a dry clothes-line. But arrange a May-day picnic in the mountains, and they will beat a kid in climbing up the steepest rocks, and swing on wild grape-vines for hours together.

It is likewise certain that fatigues can be far better borne if the body is not encumbered with a surplus of calorific clothes. A pair of linen trousers, a flannel hunting-shirt, and a loose necktie, make the most hygienic summer dress. In the afternoon remove the necktie and roll up the shirt sleeves: it can do no harm to imbibe fresh air by all available means, and let the cutaneous lungs share in the luxury. Nor is there any excuse for the wide-spread fallacy that it is dangerous, even in the most sweltering nights, to remove the bed-blankets. Kick them into the farthest corner if they become too warm and sleep in your shirt and drawers, or under a linen bed sheet. Half-naked

lazzaroni sleep the year round on the stone terrace of the Museo Borbonico and outlive the asthmatic burghers in their sweat-box dormitories. The body effects part of its breathing through the pores. Painting a man with yellow ochre and copal-varnish would kill him as surely as hanging by the neck. The confined air between the skin of the body and a stratum of heavy blankets gets gradually surcharged with carbonic acid—in warm weather even to the verge of the saturation-point. The perspiration is thus forced back upon the body ; and the lungs—perhaps already weakened by disease—have to do double work.

Hunters may find it hard to return in time for dinner, and need a rallying signal. One P. M. is a good time for a general shouting-match. Wake the echoes of the old mountains ; the spirits of the departed Cherokees are tolerant—offer a premium for the loudest and ghastliest war-hoop, and depend upon it that no pulmonary disaster will spoil the triumph of the victor. Blood-vessels are not ruptured in that way, but by sudden movements or abrupt ejaculation when terror or a similar emotion has driven the blood back upon the heart. But, while the mind is at ease and the lungs not strained by a desperate exertion of the pectoral muscles, I would defy a consumptive to yell himself into a hæmorrhage. A vocal effort does not injure the respiratory organs ; on the contrary it strengthens them. Statistics show that lecturers and preaching *savants* outlive their graphic colleagues. In Carrollton, near New Orleans, I knew a French Mexican banana-vender who was so short of breath that he had often to clutch the legs of his

dire struggles for life-air, and who told me that every few days or so he had to hitch up his market-wagon, and bawl out his wares at the top of his voice, and for hours together—in order to ease his lungs. Instead of speaking in a whisper, consumptives should envy cattle-drivers, whose busines gives them a plausible pretext for yelling.

The prejudice against after-dinner speeches is founded upon a more valid reason. Rest, mental and physical, is really a prime condition of a thorough digestion. Invalids, especially, need a liberal *siesta*, and a two hours' nap in the shade of a shelving rock can do no harm. Long, sultry afternoons, though, are unknown in the highlands, and before 3 P. M. the air will again be cool enough for any kind of outdoor sport. If the spring needs cleaning out, a wheelbarrow full of flat rocks from the next creek will turn it into a deep, limpid *brunnen*, where a pail can be filled at a single dip. On sunny days butterfly-hunters may bag their game on every mountain meadow. Grasshoppers can be flushed by the dozen, and make the best bait for brook-trout. The rock-benches at the water's edge would invite to a prolonged session if other pastimes were not too tempting and numerous. There are raspberries and muscadines in the brake; farther up the woods are strewed with chestnuts, and the collector soon learns to find the little dells where they accumulate, like nuggets in the cavities of a California gold creek.

It is astonishing how work of that sort makes the hours vanish, together with many evils which tedium is apt to aggravate: languor, spleen, and dull head-

ache. But more wonderful yet is its effect on the disorders of the respiratory organs. Under anything like favorable circumstances the lungs are, indeed, the most *curable* part of the human body. With every inspiration the balm of pure air can be brought into contact with the thousand times thousand air-cells of the respiratory apparatus,* and, as we breathe about twenty times per minute, the panacea can be applied twenty-seven thousand times in twenty-four hours. Every day six hundred and eighty cubic feet of gaseous food circulates through the lungs of a full-grown man, carrying nourishment and restoratives to every fiber, and enabling it to rid itself of its morbid excretions. The rapidity of the remedial process has more than once forced upon me the thought, "What persistent outrages against the health laws of Nature must it have required to make the lungs the seat of a chronic disease!"

The mountain-cure remedies assist Nature only in an indirect way, but before the end of the first week the breathing power of the asthmatic lungs will revive as seeing and hearing awaken after a trance. Respiration is still short and quick, but becomes easier and less laborious; the patient need not gasp for air; his lungs have resumed business, and attend to all the details of its functions till it becomes entirely normal.

* "It has been calculated by M. Rouchoux that 17,790 air-cells are grouped around each terminal bronchiole, that their total number amounts to not less than 600,000,000. Carpenter's "Physiology," p. 507.

Expectoration becomes less frequent; the source of the affection seems to retreat upward, the *sputa* come from the upper air-passages, and without the preliminaries of a worrying cough. Their quantity gradually diminishes, and the relief is permanent, while cough-medicines loosen the phlegm only by increasing its quantum, and discharging it with a tide of artificial mucus.

The night-sweats, too, soon disappear, for they can be cured on the *similia similibus* principle of the homœopathists—by day-sweats. Put on a flannel shirt, get an old axe and try your luck with a good-sized bee-tree, or with the old log that obstructs the trail. Keep a tin cup about you, and assist Nature by frequent trips to the spring. No matter if you have to change your flannel shirts four times a day; depend upon it that you will not need them at night. The hectic fever abates; the cause has been removed. The sweats as well as the fever are induced by a pulmonary inflammation that increases the temperature of the body, but can be relieved by giving it a chance to eliminate the morbid matter. The four or five quarts of water that were excreted in the process of perspiration have circulated through every pore of the respiratory organs and depurated them more effectively in a single day than the repeated doses of a cough-exciting nostrum could do in a week. After the return from the mountains to the city (not before November, if possible) the occasional recurrence of the trouble will generally be limited to the rainy weeks of the first month, for the antipyretic influence

of cold, clear weather rivals that of the perspiration-cure.

The danger of a hæmorrhage is generally passed when the cessation of purulent expectorations proves that the disease has become non-progressive, and that the ulcers begin to cicatrize. *Hemoptysis*, or blood-vomiting, is the only symptom of their disease which is liable to shake the characteristic *hopefulness of consumptives*. It generally frightens them considerably; they are apt to protest against out-door proceedings, and speak with bated breath, under the (erroneous) impression that a vocal effort has somehow induced the trouble. It can do no harm to humor that disposition; but keep the patient on his legs—lying down flat on his back after a heavy hæmorrhage is almost sure to bring on a relapse before the end of twenty-four hours. For the first three or four hours walk slowly up and down, try to keep up a deep and calm respiration, and, if possible, take the first nap in a sitting posture—propped up with cushions and pillows. At the end forty-eight hours the danger is past, and out-door exercise may be gradually resumed.

For stubborn DYSPŒA (want of breath) there is a somewhat heroic but almost infallible palliative, the I own that the *rationale* of its efficacy is somewhat undefined—artificial insomnia. Read or write as that will keep you awake; after midnight walk up and down the room for fear of falling asleep in a chair, and toward morning, when drowsiness becomes irresistible, go to bed for a few hours, and the danger will be passed in peaceful sleep can generally

ferred from the circumstance that by that time the dyspnoea has disappeared. After the second night's vigils the trouble is not apt to recur for a month or so. But, unless the distress is utterly unbearable, or the necessity for prompt recuperation very urgent, it is, on the whole, better to eschew palliatives and rely on the only permanent asthma-cure—the gradual but normal invigoration of the whole system.

In CHRONIC CATARRH—a frequent concomitant of a tubercular diathesis—the obstruction of the nasal ducts by accumulated mucus yields in a day or two to any exercise that brings into play the muscles of the neck, shoulders, and chest, such as shouldering a good-sized log, walking bolt upright with two large pails full of water, or a loaded wheelbarrow. A very simple household remedy is a palliative to the same effect: hot water applied to the palms of the hands and the soles of the feet. It affords immediate though often only temporary relief; for the diathermal influence of the hot-water treatment, as it were, dries up, and thus temporarily reduces the mucous accumulation, while the preferable exercise-cure more gradually but permanently removes the cause of the trouble.

The stitch-like pain in the chest is apt to recur with every catarrh, and forms, indeed, only an incidental concomitant of tubercular consumption. It is a pleuritic affection, and is often entirely wanting in cases that end with death by tubercular cachexia. The Calmuck Tartars, who defile the air of their family tents with tobacco-smoke and suffer the usual consequences, cure pleuritic inflammation by a simple

method of inunction : viz., by fomenting the nape and chest with hot mutton-tallow. When loss of appetite indicates a derangement of the digestive organs, ointments may be used as a temporary substitute for a demulcent diet.

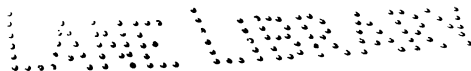
Dropsical swellings, chronic diarrhoea, with frequent chills, prove that the disease has reached the colliquative or hopeless stage of its development. But, even under such circumstances, the mountain-cure, in the form of moderate exercise in the pure air of a highland sanitarium, will confer at least the negative benefit of saving the patient from the horrors preceding the last act of a hospital tragedy—it will insure an anæsthetic conclusion of the disease ; the vital strength will ebb away in a painless *deliquium*.

But while the vital forces still keep the foe at bay, i. e., before the symptoms of the decline have assumed the chronic form, before the process of digestion becomes utterly deranged, before the impoverishment of the blood results in dropsy and a livid discoloration of the lips, while the patient has intervals of sound sleep and sound appetite, and strength enough left to walk a couple of miles—there is more than an even chance that the disease can be permanently cured. One memento only of its ravages will remain—the acceleration of the breathing-process which the convalescent engages in active exercise. This inconvenience can be diminished by a systematic training that will gradually inure the lungs to the strain of the ordinary movements and the demands of daily life: namely, by walking up-hill (or down) with a load of daily increasing weight.

months or so it will take two scuttles full of coal to produce the panting and gasping which used to result from a small pailful of water, and the mere weight of the body will seem barely sufficient to indicate the difference between a rough mountain-road and a graded pike-road.

A few years ago an emaciated Canadian miner came South for his health, and located a small placer-claim on the plateau of the "Fort Mountain," in Murray County, Georgia. The mountain is a mile high, and the up-trip with a few dozen eggs from the next valley farm obliged the miner to stop every few minutes to keep his chest from bursting, but before the end of the year he was able to make the same trip, without a stop, with a bushel-bag full of corn-meal. The waste from the corrosions of the tubercle-virus can perhaps never be repaired, but the healthy tissue of the remaining portion of the lung is susceptible both of expansion and invigoration. The lungs expand and contract with the chest. If three sisters marry on the same day—the first a ferryman, and learns to row a boat; the second a tailor, and takes to tight lacing; the third a grocer, and tends his shop—an autopsy would show that in twenty years after their separation the ferrywoman's lungs have grown fifty per cent. larger than shopkeeper's, and fully twice as large as the dressmaker's.

But few consumptives ever outgrow the sensitiveness of their lungs, and must beware of contagion, avoid crowded meetings and lectures, and rather offend Mrs. Grundy than prolong their visits to a catarrh infected house. Thoroughly healed though re-



duced lungs (reduced often two-thirds of their original size) will perform their functions in a sufficient manner for a long series of years. With the above-named precautions and a nutritive but strictly non-stimulating diet, there is no reason why a convalescent from pulmonary scrofula in its most unmistakable form should not enjoy an out-door festival in honor of his eightieth birthday. It is well known that in the *deliquium* of pulmonary consumption, in the stage of violent hæmorrhages and dropsical swellings, the confidence of the patient often gives way to gloomy forebodings—the harbingers of the long night that never fails to cast its shadows before. But this despondency is not more significant than the hopefulness that precedes it. For I believe that instinct is right in both cases, and that in the first stages of its development consumption is really the most curable of all chronic diseases. Chateaubriand, Heinrich Voss, Count Stolberg, Alfieri, Francis Deak, and Dr. Zimmerman were descended from consumptive parents, but deemed their constitutions by traveling and outdoor exercise, and attained to a more than average longevity. Goethe, in his younger years, was subject to hectic fevers, with frequent hæmorrhages, but recovered and died an octogenarian.

A tendency to emaciation, the most characteristic symptom of tuberculosis, generally continues to react the normal effects of a liberal diet, when combined with continence and a tranquil mode of life; but the limitation of that tendency is a sufficient guarantee that the disease has become non-progressive. But there is a still surer criterion; con-

generally remarkably fair and smooth skinned. The reason is, that the dross of the cachectic system gravitates toward the diseased lungs. An East-Indian surgeon found that small-pox can be localized by rubbing the chest with croton oil, and thus concentrating the eruption. Pulmonary consumption is a kind of centralized scrofula. Two hundred years ago, when the cutaneous form of the disease was more frequent surgery was often invoked to remove ulcers that threatened to disfigure the patient or destroy his eyesight. The approved method was to produce an artificial and larger sore, where it could not do so much harm, on the arm, below the chin, or on the nape of the neck. The larger sore attracted the morbid matter; and thus healed the smaller one. For cognate reasons, a scrofulous affection of the respiratory organs acts, as it were, as a *cosmetic*. Pimples disappear; boils head at once, and without suppuration; intemperance, surfeits, a congenital taint of scrofula, do not affect the color of the face; and (excepting the effect of gross dietetic abuses, which ultimately react on the lungs) the cutaneous excretion of such impurities is therefore not an unfavorable symptom. For their reappearance on the surface of the body proves that the respiratory organs have ceased to attract the cachectic humors of the system; in other words, that the tubercle-sores have cicatrized, and the lung-destroying virus has been eradicated.

CHAPTER II.

DYSPEPSIA.

Before our ancestors colonized the colder of this planet, the equatorial regions had for a long time been inhabited by men or man-like four handed beings. The influence of this long abode in the tropics still shows itself in many peculiarities of our physical constitution. We are but half acclimatized. We are not weather-proof: bears and badgers have managed to inure themselves to the miasma of their winter quarters; but the primates of the animal kingdom cannot endure cold nor breathe impure air with impunity; and of most of our civilized fellow creatures as well as of savages and all the species of four handed relatives who have thus far been confined to northern menageries, it may be said that the toughness of their lungs contrasts strangely with the tough vigor of their digestive organs.

In proportion to his size, a rhesus monkey will devour more than a wolf; between morning and evening a ceboo monkey will devour his own weight of food; and, where the cravings of a naturally voracious

are increased by the stimulus of a cold climate, it seems almost impossible to surfeit a savage with palatable food ; his appetite is the faithful exponent of his peptic capacity, and before the fauces positively refuse to ingest there is little danger that the gastric apparatus will fail to digest. Manifold and enormous must have been our sins against the dietary code of Nature before we could succeed in making indigestion a chronic disease. Deviations from the chemical standards of her *menu* are insufficient to account for her wrath. With all their unmistakable structural evidences of a frugivorous purpose, our digestive organs have been permitted to adapt themselves, not only to a carnivorous and herbivorous diet and various innutritive substances, but to a considerable number of positive poisons. The Yahoos live on fish and seal-blubber. The Shoshones stick to bull-beef. The Namaqua Hottentots (who cannot plead the exigences of a cold climate) subsist almost entirely on venison. Several tribes of Northern Brazil eat clay with comparative impunity. Our Saxon forefathers added beer to venison and beef, and when they took to in-door life the stomach protested only by proxy ; an utterly wrong diet led, not to dyspepsia, but to scrofulous affections. Excess in moderately unwholesome viands has to be carried to a monstrous degree before the after-dinner torpor turns into a malignant disease ; the stomach of a nomad seems to acquire a knack of assimilating a modicum of the ingesta and voiding the rest like so much innutritious stuff. Dr. Robert Moffat saw a Bushman eat twenty pounds of hippopotamus-liver and a bucketful of broiled

marrow, besides handfuls of ground-nuts, parched corn, and hackberries—all within twenty-four hours. In the provincial capitals of Northern China, where banquets of forty courses are *de rigueur*, convivial mandarins learn to devour a quantum of comestibles that would torpify a boa-constrictor. Eating-matches of fourteen and fifteen hours did not prevent Vitellius from acquiring distinction as a wrestler.

Daily alcohol-fevers, combined with pepper and mustard inflammations, would ruin the stomach of an ostrich; but in favor of the unfeathered biped Nature accepts such vicarious atonements as gout and dropsy. Thousands of crapulous Bavarian beer-swillers, who are hardly able to walk, are still able to digest their food. In-door life and want of exercise then added their quota of provocatives; but, where the lungs would have rebelled after seven protests, the stomach forgave seventy-seven times. Mediæval prelates, squires, and aldermen tried in vain to exhaust the patience of the long-suffering organ.

But their descendants finally solved that problem. To the alcoholic stimulants of the ancients we have added tea, coffee, tobacco, absinthe, chloral, opium, and pungent spices. Every year increases the number of our elaborately unwholesome-made dishes, and decreases our devotion to the field-sports that our forefathers to digest their boar-steaks. We have no time to masticate our food; we bolt it, and if we can not bolt it smoking hot. The convenience of our domestic and public kitchens tempts us to three full meals a day, and two of them at a time. The exigencies of our business-routine lead

leisure for digestion. At night, when the opportunity for that leisure arrives, we counteract the efforts of the digestive apparatus by hot stove-fires and stifling bedrooms. Since the beginning of the commercial-epicurean age of the nineteenth century the votaries of fashion have persistently vied in compelling their stomachs to dispose of the largest possible amount of the most indigestible food under the least favorable circumstances.

That persistence has at last exhausted the self-regulating resources of our digestive organs. But even after such provocations the stomach does not strike work without repeated warnings. The first omen of the wrath to come is the *morning languor*, the hollow-eyed lassitude which proves that the arduous labor of the assimilative organs has made the night the most fatiguing part of the twenty-four hours. The expression of the face becomes haggard and sallow. The tongue feels gritty, the palate parched, in spite of the restless activity of the salivary glands, which every now and then try to respond to the appeals of the distressed stomach. Gastric acidity betrays itself by many disagreeable symptoms; loss of appetite, however, marks a later stage of the malady. For years the infinite patience of Nature labors every night to undo the mischief of every day, and before noon the surfeited organs again report ready for duty. Habitual excess in eating and drinking sometimes begets an unnatural appetency that enables the glutton to indulge his *penchant* to the last, only with this difference, that the relish for special kinds of food has changed into a vague craving for *repletion*, just as the

fondness for a special stimulant is apt to turn into a chronic poison-hunger. This craving after engorgement forms a distinctive symptom of *plethoric dyspepsia*, but even in the first stage of asthenic or nervous dyspepsia the hankering after food is not hunger proper, but a nervous uneasiness, suggesting the idea that a good meal would, somehow, supply the means of relief. The first full meal, however, entails penalties which the sufferer would gladly exchange for the less positive discomfort of the morning. Instinct fails to keep its promise, as a proof that Nature has been supplanted by a deceptive second nature. Headache, heart-burn, eructations, humming in the ears, nausea, vertigo, and gastric spasms, make the after-dinner hour "the saddest of the sad twenty-four": a dull mist of discontent broods over the whole afternoon, and yields only to tea and lamp-light. The patient begins to fret under the weight of his afflictions, but still declines to remove the cause. To out-door exercise he objects, not on general principles, but on some special plea or other. He has to husband his strength. The raw March wind would turn his cough into a chronic catarrh. The weather would spoil his appetite and aggravate his vertigo. The truth is, that of the large quantity of comestibles ingested only a small modicum is digested, and that the system begins to weaken under the influence of indirect starvation. Business routine prevents the dyspeptic from changing his meal times. He does not reduce the number of his meals; people do not conform to the arrangements of their boarding-school. The stomach needs something strengthening.

breakfast and supper. The truth is, that the exertions of the digestive organs alternate with occasional reactions, entailing a nervous depression which can be (temporarily) relieved by the stimulus of a fresh engorgement. Business reasons may really prevent a reduction of working hours, and domestic duties a change of climate or of occupation. The daily engorgement in the meanwhile goes on as before.

Nature then resorts to more emphatic protests. Sleep comes in the form of a dull torpor that would make a nightmare a pleasant change of programme. The digestive laboratory seems to have lost the discretion of its automatic contrivances; the process of assimilation, in all its details, obtrudes itself upon the cognizance of the sensorium, and urges the co-operation of the voluntary muscles. Contortions and pressing manipulations have to force each morsel through the gastric apparatus; the lining of the stomach has become sentient, and shirks its work like a blistered palate. Special tidbits can be traced through the whole course of their abdominal adventures. Undigested green peas roll on like buckshot hot from the smelting-pan of a shot-tower. A grilled partridge crawls along like a reluctant crab, clawing and biting at each step. Nausea and headache strive to relieve themselves in spasmodic eructations. Vertigoes, like fainting-fits, eclipse the eyesight for minutes together. Constipation, often combined with a morbid appetite, suggests distressful speculations on the possible outcome of the accumulating ingesta. The overfed organism is under-nourished to a degree that reveals itself in the rapid emancipation of the patient. The

general derangement of the nervous system reacts on the mental faculties, and impairs their efficacy even for the most ordinary business purposes, till the invalid at last realizes the necessity of reform. He tries to reduce the number of his meals; but the lengthened intervals drag as heavily as the toper's time between drinks. He hopes to appease his stomach by a change of diet, but finds that the resolution has come too late; the gastric mutiny has become indiscriminate, and protests as savagely against a Graham biscuit as against a broiled pork sausage. He tries pedestrianism, but finds the remedy worse than the evil. The enemy has cut off his means of retreat; the necessitous system has no strength to spare for such purposes as an effort of the motive organs. But nine out of ten dyspeptics resort to the drug-store. They get a bottle of "tonic bitters." They try Dr. Quack's "Dyspepsia Elixir." They try a "blue pill"—in the hope of rousing Nature, as it were, to a sense of her proper duty.

Now, what such "tonics" can really do for them is this: they goad the system into the transient and abnormal activity incident to the necessity of expelling a virulent poison. With the accomplishment of this purpose the exertion ceases, and the ensuing exhaustion is worse than the first by just as much. *Poison-fever* has robbed the system of a large and smaller share of its little remaining strength. The stimulant has wasted the organic energy which seemed to revive. "But," says the invalid, "the repetition of the dose can relieve the second attack." Would the result not be preferable to the last?

the unstimulated system? Wouldn't it be the best plan to let me support my strength by sticking to my patent tonic?"

Yes, it would be very convenient, especially in times of scarcity, if a starving horse could be supported by the daily application of a patent spur. It would save both oats and oaths. Even a fastidious nag could not help acknowledging the pungency of the goad. But it so happens that spur-fed horses are somewhat short-lived, though at first the diet certainly seems to act like a charm. For a day or two the drug stimulates the activity of the digestive organs as well as of the mental faculties, but the subsequent prostration is so intolerable that the patient soon chooses the alternative of another poison-fever. Before long the pleasant phase of the febrile process becomes shorter and the reaction more severe; the jaded system is less able to respond to the goad, and, in order to make up for the difference, the dose of the stimulant has to be steadily increased. The invalid becomes a bondsman to the drug-store, and hugs the chain that drags him down to the slavery of a confirmed poison-habit.

Circumstances may differ. A dyspeptic who intends to make his own quietus within a month or two, and in the meanwhile has a certain amount of work to finish, would be justified in stimulating his working capacities by all means, in order to improve to the utmost whatever chances of mundane activity may remain to him. But he who intends to stay has to make up his mind that recovery cannot be hoped for till he has not only discontinued his drug, but expiated the burden

of sin which the stimulent outrage has added to the original cause of the disease. Nature has to overcome the effects both of malnutrition and of malpractice. The drug has complicated the disease.

In childhood chronic dyspepsia is in nearly all cases the effect of chronic medication. Indigestion is not an hereditary complaint. A dietetic sin *per excessum*, a quantitative surfeit with sweetmeats and pastry, may derange the digestive process for a few hours or so, but the trouble passes by with the holiday. Lock up the short-cakes, administer a glass of cold water, and, my life for yours, that on Monday morning the little glutton will be ready to climb the steepest hill in the county. But stuff him with liver-pills, drench him with cough-sirup and paregoric, and in a month or two he will not be able to satisfy the cravings of the inner boy without "assisting Nature" with a patent stimulant.

But is it fair to denounce a palliative when the radical remedies have lost their efficacy? What dietetic reform can avail a man to whom oatmeal gruel has become a poison? How can he invigorate his system by exercise if he is hardly able to support himself on his legs? The asthenic stage of the disease can reach a degree when the mere suggestion of gymnastic enterprises is enough to produce a nervous spasms. I have known of dyspeptics who would not have crossed a room to save a penny from the claws of a cat, and who would have undertaken an expedition to the north pole as soon as a skating-ring. Theirs is a sad plight, for a remedy holds good of unnatural habits in general.

more especially to the chronic establishment of dietetic abuses, namely, that the further we have strayed from nature, the longer and wearier will be the road of reform. Before the invalid can restore the health and vigor of his system, he has to restore his *capacity for exercise*. The first object is to create a healthy demand for nourishment. Under normal circumstances that demand is proportioned to the amount of the organic expenditure. The nursing females of the mammalia require a larger amount of nourishing diet than the ordinary wants of the system would account for. During the age of rapid growth, children eat and digest as much as hard-working men. Diabetes, the first stage of consumption and other wasting diseases, is characterized by an exorbitant appetite. Every increase of muscular activity involves an augmented demand for nourishment; *cæteris paribus*, the man who walks a mile from his shop to his home will digest his supper more easily than he who takes the street-car. The hotel-boarder who makes it a rule to walk up the four flights of stairs to his attic will sleep sounder and awaken more refreshed, than he who uses the elevator.

But the far-gone dyspeptic who is incapable of an active effort has to begin with a passive method of natural stimulation—the REFRIGERATION-CURE, based on the tonic influence of cold air and cold water. Voracity increases with the distance from the equator. An Esquimau eats a quantum that would crapulate three Hottentots and six Hindoos. A cold winter curtails the profits of boarding-houses. Camping in the open air whets the abpetite even without the aid

of active exercise. A bracing temperature exacts a sort of automatic exercise: it accelerates the circulation, it promotes the oxidation of the blood, and indirectly stimulates the whole respiratory process.* The generation of animal caloric has to be increased to balance the depression of the external temperature.

Hence the invigorating effect of mountain air, of sea-bathing, and, in high latitudes, of sea-voyages. The first dose of the tonic can be applied in-doors: sponge and shower baths, or Franklin's *air-baths*—a few minutes' pause between undress and bed-time.

People who have got rid of the night-air superstition can almost defy dyspepsia by sleeping in a *cross-draught*, or, in cold weather, at least near a half-open window. Cold, fresh air is an invaluable aid to the assimilation of non-nitrogenous articles of food (fat meat, butter, etc.). Stifling bedrooms neutralize the effects of out-door exercise. Winter is, therefore, on the whole, the most auspicious time for beginning a dyspepsia cure. In summer a highland sanitarium is the best place to start with, or, for coast dwellers a surfy seashore. Early rising, a cold bath before breakfast, frequent ablutions, deep draughts of cold water, flavored with Seltzer and sugar or a few drops of raspberry sirup, an air-bath before going to bed, and with open bedroom-windows, will score an important p

* "Why should sickness prevail during the warm, p weather so much more frequently than during the cold? son appears to me very plain. The cold weather braces us a sharp appetite, and we indulge freely in food which cold weather continnes, can be tolerated by the system E. Page.

in favor of Nature—the return of a normal appetite, and with it of renewed strength and mental elasticity. If the after-dinner affliction should show no direct signs of abatement, the patient must bide his time, and, under no circumstances, resort to the drug-exorcism. Temporary blue-devils are far preferable to a persistent blue-pill Beelzebub. But aid Nature by all legitimate means. Masticate thoroughly every mouthful of solid food. Eschew spices. Avoid pickles, cheese, salt meat, sour-kROUT, and hot drinks. Take a light breakfast, a lighter lunch, postpone the principal meal till the day's work is done, and make the after-dinner hour as pleasant as possible. Court fresh air at all times of the day and the night, and in the course of two or three weeks the capacity for active exercise will return. That point gained, the problem of recovery is reduced to a question of perseverance. The distress of the first attempts suggests almost the expediency of an unconditional surrender, but, after a dozen morning promenades in the park, and as many dumb-bell *soirées*, the three chief remedies begin to work hand in hand—exercise, refrigeration and temperance. Exercise spices non-stimulating food, fresh air promotes digestion, and restored digestion gives strength for more exercise.

There will be fluctuations in the process of convalescence. The valor of it, the confidence in the possibility of complete expiation, will sometimes falter under the realization of past sins. The very effectiveness of the remedies will demonstrate the almost unpardonable mistake of their long neglect. But the stomach is not implacable, and, in spite of a few fret-

ful relapses, it will, on the whole, accept the terms of reconciliation and ratify the treaty from week to week, till the convalescent has reached the maximum, and future average of two hours per day of active OUT-DOOR EXERCISE. Languid promenades may require an extension of that time; wood-chopping will justify its reduction to an hour and a half. For rainy days there should be a covered wood-shed, or, better yet, an amateur carpenter shop with a liberal supply of dull saws and thick boards. Asthenic invalids will derive great benefit from horseback exercise, or even from a buckboard trip—with or without catch-ropes—the great desideratum in antibilious exercise being *concussion*, the sound shaking up of the whole frame. Trapeze evolutions, spring-board and dumb-bell practice rank, therefore, highest among the gymnastic specifics; wood cutting and sawing among the more arduous kinds of manual labor; and trotting down hill among the various modes of pedestrian exercise. It is worth a dyspeptic's while to hire a sedan-chair to lug him to the top of an out-of-the-way hill, and a boy to run him a race to the foot of it. After a week or so he will be able to dispense with the sedan. At the first symptoms of indigestion, book-keepers, entry clerks, authors, and editors should at once get *telescope-desk*. Literary occupations need not necessarily involve *sedentary* habits, though, as the alternative of a standing-desk, I should prefer a Turkish writing-tablet and a square yard of carpet cloth to squat upon. But Schreber's telescope desk enables the writer to sit and stand by turns, and has

ther advantage of a sloping top that eases the wrist by resting the weight of the arm upon the elbow.

COLD-BATHS (always *before* dinner) may be limited to the summer season ; but open bedroom windows are *de rigueur* the year round. As long as the bed-clothes keep the couch warm, the lungs can inhale cold air not only with impunity, but with the most unmistakable benefit to the digestive organs. The cold nights of the South African table-lands enable the Caffre to digest his barbecues of sorghum beer and rhinoceros steaks, and the neighborhood of a glacier makes many a Swiss highland hotel a stronghold of gluttony. In the dog-days it can do no harm, in a sequestered region, to take a river side ramble at a time when only the moonlight watches on the meadows, for out-door exercise on an oppressively sultry day may defeat its object and bring on a fit of retching and nausea. Intensely cold air, on the other hand, is such a powerful tonic that, in mid-winter, a ten minutes' trot along an icy pavement will often serve all the digestive purposes of that day, though the convalescent will be surer to have fulfilled all righteousness by adding half an hour's arm work in the wood-shed. In midsummer dyspeptics sometimes deprecate exercise on the peculiar plea that a long-continued muscular effort acts as a reliable *astringent*, and the testimony of a veteran gymnasium teacher of my acquaintance seems to confirm the physiological fact. But, in the first place, a transient constipation is no very serious matter, and, besides, the danger can generally be obviated by training early

in the morning, or (about three hours after the last meal) in the cool of the evening.

DIETETIC-REFORMS should begin with the prescription of a strictly non-stimulating diet. A spoonful of mustard, a glass of small-beer or claret, may seem a trifle; but the trouble is that all stimulant-habits are progressive: the pungent spices are apt to slide into pungent tobacco, and the claret into port, or something worse. Fresh apple-vinegar, with a fruity flavor, can perhaps not do much more harm than sweet cider, but salt is not quite above suspicion, and the safest plan is to stick to comestibles that can be eaten without it. Cream, for that and other reasons, is better than fat meat, a whortleberry-soup better than a gravy-soup, and a raspberry-pudding preferable to a blood-pudding. All fried and broiled viands, all pickles, all rancid cheese, butter, and sausages, all smoked meats, are suspicious. Catchup-vials harbor the bottled-up demon of indigestion. But, withal, the diet should not be insipid. Ultra-vegetarians denounce all kinds of fat. Ultra-Grahamites suspect all sorts of flesh-meats. "Let your cook distinctly understand," says one peptic philosopher, "that, on peril of her life, she is to set nothing savory before you." Many hygienic institutes feed their dyspeptics on stale bran-bread, water-gruel, and watery vegetables. Man has a right to decline existence on such terms. Not the naturally palatable, but the unnaturally stimulating qualities of a dish tempt the dyspeptic to eat to excess. For one man who surfeits himself with sweet grapes or pancakes, a thousand, at least, derange their digestion with

strong cheese, or hot-peppered ragoûts. Alcoholic stimulants kill hundreds every year; how many intemperate drinkers have ever killed themselves with fresh milk or lemonade? And cannot fruits, flour, milk, eggs, sugar, and orange juice furnish the ingredients of a very tolerable meal?—not to mention berries, tubers, and dozens of harmless vegetables that can be creamed and sugared into tidbits to rival the *entrées* of the Frères Provençaux in everything except virulence, *alias* pungency. It is better to improve the digestion than to spoil the appetite, for no man can thrive on a naturally distasteful diet. Nature intended us to be *vegetarians*; but I cannot help thinking that the word is misleading by its popular association with the idea of kitchen vegetables. Our next relatives in the animal kingdom do not live on pot-herbs, but on fruit. The victims of *plethoric dyspepsia*, the chronic gluttons who gorge for the sake of repletion, would stuff themselves with a potful of watery spinach as quick as with an eel-pie; and theirs is a rare, but indeed rather embarrassing predicament: they seem as unable to stop eating as to begin digestion. They are evermore esurient, though as cachetic as a starved Silesian weaver; I have seen gouty gluttons, to whom the sight of a restaurant window was as tempting as a tavern sign to a toper. Certain drugs would abridge their *penchant*, but, with it, also, the last traces of a digestive function; and instead of reducing their appetite, it is better to reduce its capacity for mischief, by limiting the number of their daily meals. For, after all, that capacity is circumscribed by the caliber of the stomach, and, if the quality of

the food is unexceptionable, there is no serious danger of a man's eating more at *one* meal than his system, under otherwise favorable circumstances, can dispose of in the course of twenty-three hours. The apprehension in *such* cases as to the insufficiency of one meal a day is wholly gratuitous. For more than a thousand years the one-meal system was the rule in two countries that could raise armies of men every one of whom would have made his fortune as a modern athlete—men who marched for days under a load of iron (besides clothes and provisions) that would stagger a modern porter. Even here, abstinence is easier than temperance; for twenty-three hours of each day it is far easier to abstain from food (though, of course, not from water) than to begin eating and stop in time. Not one glutton in a thousand will do it. Dio Lewis recommends a limited number of dishes—"never put more on the table than you intend to eat"; but the first mouthful reawakens the passion of Polyphemus, and for those who cannot govern their appetite it is just about as easy to call for another dish as to reach for another plateful. But it is an excellent rule to *prolong the pauses* between the several dishes of a full meal, in order to give the stomach time to indicate the real wants of the system. "The ingestion of food," says Dr. Carpenter, "one cannot *at once* produce the effect of diminishing the feeling of hunger, though it will do so after a short time, so that, if we eat with undue rapidity, we may continue swallowing food long after we have taken as much as the wants of the body require."

The origin of the glutton habit can often be traced

to the mistaken liberality of a host who constantly urges the conviviality of his young guests, or even to the fatuous tenderness of nursing mothers, who so frequently think it their duty, as Dr. Page expresses it, to make a baby "guzzle till it is ready to die with fatty degeneration."

Begin with reducing the number of daily meals and exercise a change of climate and of habits will by and by help to subdue the baneful *penchant*. Occasional relapses cannot be avoided; but the progressive relief from a number of the worst gastric afflictions will at last induce the veriest cormorant to stick to the one meal plan.

The best time for that one meal is the end of the working-day—4 or 5 P. M.—when business-cares can be laid aside for the rest of the evening. Asthenic dyspeptics, too—all, at least, who are not completely masters of their own time—had better choose that hour for their principal meal. No other hygienic mistake, not even the stimulant-fallacy, has done so much to make ours a dyspeptic generation as the fatal habit of *after-dinner head-work*—severe mental labor in the study, the school-room or the counting-house, at a time when the whole strength of the system is claimed by the digestion of a heavy meal. Not only that the progress of digestion is thus interrupted, not only that the body derives no strength from the inert mass of ingesta, but that mass, by undergoing a putrid instead of peptic decomposition, vitiates the humors of the system it was intended to nourish, irritates the sensitive membranes of the stomach, and gradually impairs the vigor of the whole digestive apparatus.

Hence the gastric torments of poor overworked teachers, who (unlike happier servants of the public) cannot shirk their work, and have to snatch their dinner during a brief interval of the hardest kind of mental drudgery. Hence the sallow complexion, the hollow eyes, and the weary gait of thousands of city clerks, scholars, lawyers, newspaper drudges, and even physicians. Housewives, after dinner, have generally the good sense to rest awhile, often a very good while, and thus manage to digest their food; for, that their immunity is not a prerogative of their sex is demonstrated by the chlorotic complexion of lady teachers and boarding-school girls, who have only an hour's recess—physiologically no recess at all, if the school-bell rings right after dinner.

For those who have to drudge the whole afternoon, it would be better to postpone the principal meal to the very end of the day, and laugh at the supposed danger of "sleeping on a full stomach." For what do those who add a supper to an undigested dinner?—only with this difference, that their stomachs are obliged to dispose of an acidulated *mélange*. Animals, in a state of nature, nearly always sleep or rest after a heavy meal; only the *homo sapiens* disregards the promptings of his instinct and relies on a dyspepsia pill.

In most cases, however, the matter could be compromised. Early rising and an unmuddled brain would enable almost any man to go home at 3 or 4 P. M., and counting-house clerks should consent to a reduction of their wages rather than forego the same privilege; at five, a full meal of milk, farinaceous

preparations, and nutritive vegetables, followed by a dessert of fresh or cooked fruit; then a *siesta* of two full hours, music, conversation, or, *faute de mieux*, an entertaining book; then, the weather permitting, a ramble in the cool evening air, or light gymnastics; then rest in undress, an air-bath, and open bedroom-windows.

The general adoption of that plan would surely soon dissipate a strange and strangely prevalent fallacy: the supposed natural antagonism of the brain and the stomach—the alleged impossibility of combining studious habits with a sound digestion. Restricted to proper hours, head-work is as stimulating as any other kind of labor, and promotes digestion instead of hindering it. The nature-abiding habits of such men as Boileau, Linnæus, Cuvier, Goethe, and Humboldt, enabled them to reconcile the mental strain of their enormous literary activity with the enjoyment of almost uninterrupted health.

Dyspeptics, therefore, need not shirk brain-work, but, as they would shun the pills of a mercury-quack, they should beware of *exasperating mental emotions*. For it is a curious and not quite explained but incontestable fact that a short fit of anger is often enough not only to derange but to completely arrest the digestive process for a whole day. Close behind the stomach is a group of ganglia, the solar plexus, which sends out a large number of nerve-filaments that communicate with the brain, and thus suggest the physiological explanation of the curious phenomenon, though its final or teleological purpose is somewhat less apparent. Haller connects it with the fact that

anger vitiates the saliva (*teste*, the virulent bite of enraged animals), and suggests that by a wise arrangement of Nature the suspension of the assimilative process may preserve the chyle from the contamination of malignant humors ; and, in connection with the same subject, Camper mentions the circumstance that *fear* often acts as a sudden cathartic, perhaps for the purpose of easing the stomach, and thus preparing the body for emergencies—the necessity for flight, for instance. Speculations of that sort lead to a field of curious but rather recondite biological metaphysics ; but the empirical fact remains, and partly suggests the *rationale* of another fact—namely, that pleasurable mental emotions act as a benignant digestive tonic. Hence, perhaps, the peptic beatitude of “jolly paunches,” fellows who seem constitutionally unable to see the gloomy side of earthly concerns, and wax fat on the prescription of Democritus, “*Ride, si sapis.*” The autocrat of the dinner table should, therefore, peremptorily exclude all conversational topics of an irritating character, as well as all business talk. A remarkable influence on the action of the bowels can be exerted by *mechanical laughter*—I mean the agitation of the diaphragm by means of a forcible and long-continued chuckle. Laurence Sterne mentions that he was able to keep up this factitious kind of laughter for minutes together, with or without the association of risible ideas. On solitary evenings that talent could be utilized as a physiological compensation for the absence of merry friends.

For the effects of mental worry, and nervousness (often the after-effect of stimulating medication) the

best remedy, next to out-door work, is a *liberal allowance of sleep*; and metropolitans who cannot afford to join the summer exodus should at least remove their beds to a suburban cottage, far from the sleep-murdering noise of the business centers.

But neither long sleep nor short meals can save dyspeptics who will insist on swallowing their food smoking hot. The walls of the stomach are lined with a nerve-interwoven delicate membrane, which suffers from scalding fluids as much as any other tegumental tissues of the body, and by daily torrefactions becomes either callous or chronically inflamed, and in either case less fit for the performance of its important functions. Our forefathers served their viands steaming hot but stuck at least to cool drinks, but hot French soups were soon followed by hot tea and coffee. The "second breakfast," as the Germans call the eleven-o'clock refreshment, used at least to consist of cold meats; but competing saloon-keepers have now introduced hot lunches, and in our larger cities there is no escape for dyspeptics; "the smoke of their torment ariseth for ever and ever."

The gastric irritability which forms a lingering after-effect of chronic dyspepsia can be better allayed by a *vegetable diet* than by the nutritive extracts which are supposed to aid the work of digestion. The *bulk* of innutritive admixtures somehow excites and maintains the vigor of the digestive organs; and the human organism cannot thrive on concentrated nourishment, as for similar reasons the lungs cannot be fed on pure oxygen. Water, either pure or in organic compounds, is likewise an effective sedative and de-

puratory ; it aids the process of eliminating the indigestible or noxious elements of various articles of food, whose ingestion therefore excites thirst. But without waiting for that urgent appeal, we should remember that the diet of our instinct-guided relatives contains about ninety per cent of water, and that a dearth of fruit should be compensated by artificial compounds, supplying the requisite amount of fluids in a palatable form. The remedial influence of many famous spas is due to the water as much as to its mineral admixtures. About fifty years ago, the Brooklyn hotels were crowded with visitors, attracted by the fame of a doctor who cured all manner of diseases with pure rain-water. The mystic motto of Thales, "*Ariston men hydor*" ("The best of all things is water"), might perhaps be explained from such facts. Our diet, in fact, is much too dry, and could be improved without resorting to lager beer, which redeems its deleterious influence to some degree by helping the Germans to digest their pungent comestibles. Water, in some of its combinations, is also an effective aperient ; in watermelons and whey, for instance ; but still more in conjunction with a dish of *legumina*—peas, lentils, and beans. No constipation can long withstand the suasion of a daily dose of pea-soup, or baked beans, flavored with a modicum of brown butter, and glorified with a cup of cold spring water ; and, moreover, the aperient effect is not followed by an astringent reaction—the cure, once effected, is permanent. Plethoric dyspepsia is almost invariably accompanied by close stools, and the drugs that have been swallowed to ease Nature—for a day—

would poison half the living creatures of the American Continent.

But rather forego the beans than eat them with *pork*. The interdict of the Hebrew lawgiver, I suspect, has something to do with the climate-proof health of his countrymen, for in warm weather fat pork is about as digestible as yellow soap. The Hungarian peasants are ravenously fond of it, and neither out-door life nor the vigor of their Turanian stomachs can save them from the consequences. Every summer, and sometimes three and four times a year, the digestive system of the rustic Magyar relieves itself by an expurgative process known as the *tzömör*, or pork surfeit, a three days' purgatory of heart-burns, nausea, and violent retching, accompanied by a burning thirst and an unspeakable loathing of all solid food. He who weathers the storm, says the traveler Kohl, feels like a new-made man, and reappears at the family table; but so does the pork-pot, and a few months after the respited sinner has another seizure, and groans, "O Jesus, Maria, *meg tzömöretem*—it's got me again!"

After the re-establishment of intestinal digestion, flatulence, vertigo, and that terror of constipated tea-drinkers, dull headache, become less and less frequent; the spell of the deliquium is broken, and the redevelopment of the wasted muscles proves that the system is no longer obliged to feed upon its own tissue. But these first symptoms of improvement should not encourage the patient to relax the rigor of the regimen before he is sure that the gastric inflammation has wholly subsided. As long as spasms

and acrid eructations (water-brash) indicate the danger of a relapse, give the stomach all the *rest* you can. Never miss an opportunity that will make it easy to forego a meal or two. There are ways to make a fast-day a very trifling inconvenience, and its remedial value exceeds that of a round-trip to all the spas of the Eastern Continent. In my experiments on the operation of the fasting-cure, I have noticed the curious fact that for the first day or two the clamors of the stomach are restricted to certain hours, and can be induced to waive a disregarded claim. Convalescents who have already reduced the morning lunch to the standard of a Spartan breakfast, "a heathen fig and a thrice-accursed biscuit," can beguile the dinner-hour by diverting pastimes—a boat-trip, a fishing-excursion, a visit to the Zoo—and upon their return home will find that the craving for food has yielded to sleepiness, and the sweetness of the night's rest will be worth seven meals. It is during such periods of undisturbed rest that the work of repair makes its surest progress, and for the first three or four months it would be a good plan to imitate the example of the Ebonite heretics, who observed a weekly fast-day in the Ugolino sense of the word. Water, of course, should never be stinted, and, after a long fast, will have an especially good chance to deurate the vacated passages of the abdominal labyrinth.

An advanced stage of alcoholism (which will be treated in a separate chapter) often results in that malignant form of chronic indigestion known as hepatic or bilious dyspepsia, a complete derangement

of the digestive process, accompanied by headaches, which for months defy the influence of an hygienic regimen, and yield only to the heroic remedies of the pedestrian-cure. But with that exception, ten weeks of strict temperance, fresh air, and moderate exercise, will generally suffice to appease the resentment of the outraged stomach. During the next twelve months the reconciled digestive apparatus helps to redress the impairments of other organs. For it is a generic peculiarity of dyspeptic affections that the symptomatic outlast the idiopathic disorders. After the action of the bowels has become perfectly regular, after fat and sugar have ceased to cause heart-burn, the chronic lassitude—not pain exactly, but a nervous disinclination to active exercise—still lingers about the knee-joints ; the flexor muscles of the upper arm still shirk their work ; headaches that cannot always be traced to dietetic backslidings recur at irregular intervals. The countenance is still sallow, the eyesight more or less impaired ; even vertigo and murmurs in the ears occur, without their former gastric concomitants. But at the end of each month the progress in the direction of general health is unmistakable. Mountain excursions marvelously further the good work ; but even the counting-house drudge need not doubt the reward of his perseverance, as long as he sticks to a plain diet, and such exercise as the opportunities of his leisure will offer on all but the busiest days. Unlike consumption (which can only be made non-progressive), dyspepsia can be thoroughly cured. As far as they are capable of repair,

injuries to the respiratory organs heal quickly; gastric ailments with less ease but more completely.

Gymnastics, however, combined with cold-baths, air-baths, deep draughts of cold spring-water, dietetic aperients, temperance, abstinent forenoons, liberal *siestas*, cheerful evenings, and wide-open bedroom-windows, will speed the advent of the time when the after-dinner hour shall cease to be the "saddest of the sad twenty-four"—nay, when digestion, like all normal functions of the animal organism, shall be once more not only a painless but a pleasurable process.

CHAPTER III.

CLIMATIC FEVERS.

Life is a sun-child ; and nearly all species of plants and animals attain the highest forms of their development in the neighborhood of the equator. Palm-trees are tropical grasses. The python-boa is a fully developed black snake ; the tiger an undiminished wild-cat. With every degree of a higher latitude, Nature issues the representatives of her arch-types in reduced editions—reduced in beauty and longevity, as well as in size and strength.

The human animal, however, seems to form an exception to that general rule. For the last two thousand years, nine out of ten international wars ended with the victory of northern nations over their southern neighbors. The hegemony of commerce and superior civilization moves farther and farther north. Our oracles have been transferred from Delphi to Berlin, to Edinburgh and Boston. The Muses and Graces are wearing fur cloaks. Has the sun of the south lost its stimulating power ? The truth seems to be, *that cold air is an antidote*. The antiseptic ef-

fect of a cold climate enables us to indulge with comparative impunity in numerous vices which our southern neighbors have paid with the loss of their moral and physical health. It has been ascertained that alcoholic stimulants, instead of increasing actually *decrease* the temperature of the system, and that cold weather constitutes no valid excuse for the use of intoxicating drinks, but it is equally certain that a low temperature promotes recovery from the effects of intoxication. Many hyperboreans eat flesh as a stimulant rather than as a medium of calefaction; tea drinkers contract a morbid craving for boiling hot beverages. But climatic influences increase the activity of their digestive organs to a degree that enables Nature to compromise the violation of her laws. Gluttons and toppers die in the south and survive in the north, not because a warm climate *per se* is incompatible with the normal vigor of the human system, but because a cold winter counteracts the effects of gluttony and intemperance in much the same way as rum counteracts the effects of a snake-bite, or mercury the virus of the *lues veneris*. Frost is a counter-poison. Protracted impunity tempts sinners to believe in the innocence of their habits. During the two centuries when the Cæsars vied in the gratuitous purveyance of bread, oil, and circus games, the Roman citizens had no special reason to admit the turpitude of idleness. Under the protection of the Holy Inquisition dunces were secure enough against the competition of genius to consider ignorance as a virtue. Thus the prophylactic influence of a frigid climate has made the propriety of many of our daily sins so axiomatic

that the neglect of their practice excites a sort of virtuous indignation. A German proverb, traced to the table-talk of an eminent reformer, denounces the demerits of the man who fails to worship music, women, and—wine. To many minds closed bedroom-windows and three warm meals a day are essential conditions of respectability. Even in the dog-days, the impropriety of Scotch knee-breeches would be thought worthy of a harsher name. When financial embarrassments obliged the later Cæsars to abolish the free-lunch system, the astonishment of the *cives Romanus* was only equaled by his wrath at the injustice of the innovation; and with a similar mixture of indignation and surprise thousands of exiles from the regions of prophylactic frost denounce the malignity of a climate that fails to protect them from the logical consequences of their sins against nature. In summer weeks, when the creoles pass the night on their flat house-roofs, with a mattress and a linen bed-sheet, and regret at the necessity of adding a mosquito-cap, the foreign resident insists on sleeping in a flannel undershirt, under woolen blankets, and the impression that his life depends on keeping his doors and windows hermetically closed. During the noontide glare, when the youngsters of the native patricians run about in white muslin inexpressibles, and their plebeian comrades in still less expressible and certainly unspeakably sensible costume, the children of the north have to mourn their exile in black broadcloth, woolen stockings, boots or air-tight gaiters, tight-fitting collars, neckties, and waistcoats, besides the unavoidable flannel undershirt. And,

worse than that, the ex-hyperborean not only continues to gorge himself with an amount of calorific food that would more than suffice for the climatic exigencies of his own latitude, but persists in eating that excessive amount in the specially indigestible form of fried and broiled meat, served smoking hot with greasy sauces, after a prelude of sudorific doses of hot soups or narcotic drinks. In a cold climate the pathological results of overfeeding are chiefly limited to the evils of mal-nutrition, i. e., the difficulty of eliminating the cachetic elements of a mass of accumulated and fermenting ingesta. But in a warm climate that result is complicated by the further difficulty of maintaining the normal temperature of the system. For the organic functions of the animal body require a uniform degree of warmth as a condition of their healthy performance, and in the human body the normal average of that temperature has been found to be about 98° Fahr. A variation of only two degrees denotes an abnormal depression or acceleration of functional activity, a difference of five degrees indicates a serious disease. In the polar regions, where a rousing stove-fire often fails to thaw the rime-frost on the stove-pipe, the organism of the human body contrives to maintain its blood-heat within half a degree of the normal average, i. e., sometimes at a temperature of 150° above that of the external air. In the tropics the same marvelous organism becomes a refrigerating apparatus, and lowers its temperature as much as thirty degrees below that of the outer atmosphere, which in British India, for in-

stance, has been seen at 132° above zero, or a hundred degrees above the freezing-point.

In these thermal regulations, Nature has, however, to rely on the co-operation of instinct or reason; and a mariner who would wear the same dress on a north-pole expedition and a trip to Suez could hardly hope to escape the consequences of his imprudence. But even if the Artic explorer should not only forget his furs, but intentionally chill his blood by sitz-baths on an ice-floe, and promenades in the costume of the Nereids, his chances of continued health could hardly be worse than those of the British merchant who practices in the tropics the calorific artifices of his native land, and aggravates the blood-seething effects of a West Indian summer by superfluous clothes and worse than superfluous beefsteaks and sudorific drinks. The blood of the sitz-bathing mariner would congeal; the blood of the beef-eating merchant does *ferment*. With all the diversity of opinion as to the proximate cause of climatic fevers, there is no doubt that the febrile blood-changes indicate the agency of a catalytic or fermentative process. In yellow fever the temperature of the body arises to 105°, and *after death* often to 112°; the progress of decomposition separates the serum from the red blood-globules (whence the chlorotic hue of the skin) and the bodies of the victims need immediate interment on account of the rapidity with which putrefaction begins, or rather completes, its work. The clinical study of the disease in such towns as Vera Cruz and New Orleans has preserved the record of many curious cases of molecular life after somatic death. Dr. Benntt Dow-

ler ("New York Journal of Medicine," 1846) mentions the case of an Irishman whose arms, after the cessation of respiration, rose and fell with a rhythmical motion, and of a Kentuckian whose flexor muscles, four hours after death, reacted against the slightest mechanical stimulation. The symptoms of ordinary "chills and fevers" can be temporarily suppressed by antiseptic drugs—quinine, arsenic, strychnine, ferro-cyanide of iron—in fact, by all chemicals that would arrest a process of decomposition. Hence also the prophylactic effect of alcohol ("tonic bitters") and of Nature's great antiseptic, frost.

That marsh-miasma is only an adjuvant cause of endemic fevers can be abundantly demonstrated by the comparative study of the typographical and climatic conditions of the chief-centers, as well as by many unmistakable analogies of "climatic fevers" and certain enteric diseases which can be traced to purely subjective causes. The swampiest districts of Central and South America—the Peninsula of Yucatan, Tehuantepec, the Brazilian province of Entre-Rios, the Orinoco Valley, the "Gran Chaco," or monster-swamp, between Bolivia and Paraguay—enjoy an almost perfect immunity from pyrexial diseases, while Vera Cruz and Pernambuco with their zone of barren sand-hills, or La Guayra, Havana, and Rio Janerio, with their mountainous vicinity, are subject to yearly visits of the plague. During our last two epidemics the vast Arkansas river-swamps, and the coast-fens of Georgia, Florida, and Texas, escaped, while Vicksburg and Memphis, on their dry bluffs, and Chattanooga, at an elevation of six hun-

dred feet above sea-level, suffered more in proportion to their populations than any place this side of Vera Cruz. During every fever-epidemic the focus of the disease seems to be some commercial city of the tropics or sub-tropics, a town uniting torrid summer climate with the presence of a large number of northern foreigners.

In all fevers ascribed to a malarial origin the success of the conventional mode of treatment depends chiefly upon the efficacy of chemical antiseptics which temporarily suppress or palliate the symptoms of the disease, but (aside from the deleterious after-effects of such drugs) the disease itself can be cured only by the removal of the cause. That cause is the inability of the vital powers to withstand the influence of moist heat from within and without. The proper method of cure, therefore, consists in diminishing the thermal product of that complex cause, either by flight to a colder climate, or by adopting a less calorific regimen. The latter expedient is the cheaper and generally the shorter and safer one; and in no other disease is the remedy more clearly indicated by the promptings of instinct. The premonitory stage of yellow fever is characterized by an intense longing for *refrigeration*: fresh air, cold water, cooling fruits or fruit-extracts. The fever-dreams of an ague-patient are crowded with visions of tree-shade and mountain-brooks. Even "chills" are often accompanied by a burning thirst; and during the cold stage of an intermittent fever the temperature of the system is actually higher than during the sweating stage; ac-

according to Dr. Francis Home, respectively 104° and 99°.

In the first place, remove the patient to the airiest available room in the house. The art of house-cooling seems to have been lost with the ancient civilization of Southern Europe. There is not a room in the narrowest alley of the Naples Jew quarter where open windows and ten cent's worth of ice would fail to lower the temperature from twenty to thirty degrees below that of the outer atmosphere. Create a draught and if possible a cross-draught, without fear that the admission of air from a sun-blistered courtyard, for instance, would make the room equally uncomfortable; the thermal contrast itself will create an air current, and that draught will be cooler to the feeling than stagnant air of an actually lower temperature. The shade of a leafy tree is never more grateful than when the surrounding fields tremble under the rays of a vertical sun. The evaporation of ice-water, or even of common cistern-water, will greatly aid the good work. Pour it into flat basins, tubs, etc., and place them in the center of the room, or get a wheelbarrow full of unglazed bricks, that can be procured at any pottery, put them close together on the floor and sprinkle them from time with cold water. The water will soak into the porous mass and evaporate more rapidly than from an impervious surface. A bundle of bathing-sponges or a sheaf of bulrushes, suspended from the ceiling and sprinkled from time to time, will serve the same purpose; and where ice is cheap, a dog's-day sirocco can be easily reduced to an April breeze.

But the best time to begin the refrigeration cure is an hour after sunset. On this continent alone, the *night-air superstition* costs annually the lives of about fifteen thousand human beings; for at least one-half of the thirty thousand North Americans who succumb every year to yellow fever, ague, and congestive chills could have saved themselves by opening their bedroom windows. In the jungles of our Southern Gulf coast thousands of hunters and lumbermen breathe with impunity the air of the very swamps to whose neighborhood the city dweller ascribes the summer epidemics. Their febrifuge is the cooling night wind, for here, as in the dyspeptic shopkeeper cities and consumptive factory towns, each night labors to undo the mischief of each day. The flat-boat men who often contract the ague during a week's delay in a Southern inland port, need no quinine by the time they reach New Orleans, a week or two of chill night-camps on the open river having cured them as effectually as the first November frosts cure the chlorotic city-dweller.

For direct refrigeration a *sponge-bath* is more effective as well as less disagreeable than a wet-pack; though an *air-bath*, before an open window (under cover of night) is preferable to both, if the strength of the patient is reduced by a protracted ague or injudicious medication. In obstinately sultry weather an *ice-pack* will afford almost immediate relief—a pailful of crushed ice, stuffed into linen bags and wrapped for a few minutes around the neck and arms, or around the wrists of a bedridden patient.

“Stuff a cold and starve a fever” was, in regard to

fevers at least, not a bad plan, when "stuffing" implied a monster dose of beef and beer. But the want of appetite which characterizes all febrile affections is properly defined as only an abhorrence of calorific food—flesh, hot soups, and greasy-made dishes. The mere sight of such comestibles is enough to aggravate the sick headache that preceeds yellow fever and follows an ague-fit, and, when the idea of food has become closely associated with visions of smoking grease the voice of instinct is apt to be in favor of total abstinence. But that protest is always accompanied by a passionate craving for cooling drinks, which easily connives at an admixture of solid nourishment, after a refrigerating diet has once been tasted in the form of cooling fruits. Cold sweet milk, whipped eggs with a drop of lemon-flavor, a sherbet of ice water, sugar and orange-juice, offered to the rebellious stomach of a fever-patient, are not only tolerated, but absorbed with an almost conscious satisfaction. Fruits, however, rank first among the dietetic febrifuges of nature, especially tropical fruits. "Under the exhaustion of a blazing sun," says Sir Emerson Tennent, "no more exquisite physical enjoyment can be imagined than the chill and fragrant flesh of the pineapple, or the abundant juice of the mango, which when freshly pulled, feels almost as cool as ice water. . . . It would almost seem as if plants possessed a power of producing cold, analogous to that exhibited by animals in producing heat. Dr. Hooker, when in the valley of the Ganges found the fresh, milky juice of the *mudar* (*calotropis*) to be but 72°, while the

damp sand in the bed of the river where it grew was from 90° to 104°."

With a biscuit or two, a sliced pineapple, two or three bananas or a couple of oranges, will make a sufficient meal; and in very warm weather bananas alone would do for a couple of days, for the nutritive value of saccharine fruit is generally underestimated; our next relatives, whose digestive organs are a close copy of our own, are exclusively frugivorous, and withal the most active and indefatigable creatures of their size. With cold, sweetened orangeade alone, the physicians of the Spanish-American hospitals often support their comatose patients for days together.

These remedies should be applied in the very beginning of the disease. As soon as the yawning and stretching languor of a bilious remittent announces the approach of an ague-fit, the patient should prepare for refrigeration by sponge-baths, air-baths, and rest in a shady, well-ventilated room. The thirst that announces the needs of the internal organism should be freely indulged with fresh spring-water (or the next best thing, filtered and ice-cooled cistern-water). I would not prevent a fever-stricken child from drinking five quarts of water in as many half-hours, if its system craves it, for, besides its refrigerating influence, fresh water fulfills an important expurgative purpose, and helps to eliminate the catalytic germs of the tainted blood. During the shivering stage of a fever there would not seem to be much need of artificial refrigeration; but I have noticed that a fit of "chills" is far more supportable

if the craving for a warm cover is justified by an external cause. In a sultry room a woolen blanket is apt to turn a shaking fit into the ugliest symptoms of the hot and headachy stage, while in a cold room the shivering patient (covered up, but with his head exposed to a cooling draught) soon finds relief in a quiet slumber. The ancient Romans cured their fever-patients in subterranean grottoes, and where the means of refrigeration are as cheap as in the New Orleans ice-factory I would keep the yellow-fever ward of a hospital at a maximum temperature of 55° and at night, if possible, below 50°.

Wet-packs and a frequent change of posture greatly alleviate the throbbing pains in the loins, where the pyrexial process of a yellow-fever paroxysm seems to center its activity. * These pains are often accompanied by a stupor-like oppression of the brain and are grievously aggravated by a stagnant atmosphere.

In the tent-camp of Medellin, to where the French authorities had removed the fever-stricken paupers of Vera Cruz, I noticed that comatose symptoms occurred only in a small minority of cases, while their worst forms were frequently observed in all the city hospitals, except the excellently ventilated infirmary of the Catholic orphan asylum. In common ague, fresh air alone, and without the aid of fruit and ice (which cannot be readily procured in some inland districts of

* "It is curious that the maximum of the heat observed after death should have been in the thigh, and the minimum in the brain. Dr. Bennett Dowler, of New Orleans, ascertained it to be (ten minutes after death) 102 in the brain, 109 in axilla, and 113 in the thigh." —(Carpenter's Physiology, " p. 619).

our Southern States) will modify the paroxysms sufficiently to reduce them to debilitating rather than distressing symptoms—tremors, followed by perspiration, and a cerebral excitation somewhat resembling the first effects of certain intoxicants.

During the hot stage of an intermittent, delirium can be obviated by keeping the patient in a half-sitting posture, and cooling his temples from time to time with a wet towel, or, in extreme cases with the above-mentioned ice-pack.* After a profuse perspiration the pulse will gradually become normal, and the feverish brain pass into a sort of twilight state between slumber and more or less fantastic day-dreams, but without obstreperous symptoms and without oppressive headaches.

All this, however, on condition that the bark of *Cinchona calisaya* is left severely alone. I have seen *quinine-drunk* patients break away from their nurses and rush out into the street like Indian amuck-runners, or sit moaning on their beds, freed from the febrile diathesis, but afflicted with ear-aches that pierce the head like twinges of neuralgia, and often impair the hearing for months together. Quinine sticks to the system like mercury, and I doubt if there is such a thing as perfect recovery from the effects of its protracted use. Strychnine, bitter-orange peel, valeriana,

* Six parts of sulphate of soda and four parts of hydrochloric acid make an effective freezing mixture. The first piece of ice thus obtained can be used with common salt to continue the freezing process, and, mixed in a tin cup, will reduce the temperature of water in a smaller cup, immersed in the mixture, by as much as thirty degrees.

arsenic, snake-root, are equally objectionable, and often produce after-effects that are ascribed to other causes, or to a lingering nervousness induced by the fever itself. Besides, the removal of the cause is the only radical fever-cure; chemical antiseptics merely palliate the symptoms, as a cloth mantle would smother a fire, till it gets strong enough to break out through cloth and all. Frost kills out flies where arsenic fails. By the refrigeration-cure the zymotic disease germs are, as it were, *frozen out*; the blood-heat of the system is reduced below the temperature which is a condition of their development. The quinine treatment is an attempt to *poison them*. For a time that attempt may prove successful, but the patient becomes a slave to his drug, and, till frosts sets in, one of the most nauseous of all medicines has to be applied from week to week, and generally in increasing doses. But, if the febrile diathesis has been subdued by a refrigerating diet, the most ordinary precautions suffice to keep the disease in abeyance. The cause has been removed. I will venture the prediction that the zymotic agency of climatic fevers, as of tuberculosis will be traced to the development of a living organism, and I suspect that Nature's effort to eliminate the tainted humors constitutes the critical symptoms of the affection, while the periodicity of the disease is due to the periodical redevelopment of the parasites from their ova or vital rudiments. In the vomit of cruor that precedes the crisis of yellow fever, the system seems to make an attempt to eradicate the evil by a direct extrusion of the tainted particles of the blood (the fibrine and red corpuscles), at the risk of exhaust-

ing the vital pabulum by the impoverishment of the humors. The success of that heroic remedy ends the trouble ; yellow fever hardly ever attacks the same person more than once.

Ague, on the contrary, recurs with the return of every favorable opportunity nay, persons who have suffered most from remittent fevers are especially liable to relapses, and, if the disease is allowed to continue, its result is the same impoverishment of the blood (chlorosis and jaundice) which the paroxysm of yellow fever effects in a few hours. It is not safe to count upon an early frost or immediate relief by a change of climate (in midsummer, especially, when the weather is often as warm at the borders of the Arctic Circle as fifty degrees farther south). And the persistent neglect of dietetic precautions under reliance on the prophylactic effect of a weekly dose of quinine would be strictly analagous to an attempt to legalize the sins of Don Juan by saturating the system with mercury.

In yellow fever large doses of quinine directly increase the chief danger of the disease by arresting the excretion of uric acid, which, passing into the circulation, has been recognized as a main cause of the convulsions and coma which so often inaugurate the hopeless stage of the deliquium.

During the delirious paroxysm of climatic fevers, ice-water may be administered like medicine by spoonfuls, but *solid food should never be forced upon the patient*. When coolness, sweetness, and fruity flavors cannot make a dish acceptable to the appetite, its obstruction upon the stomach would do more harm than

good, and it is a great mistake to suppose that even total abstinence could in such cases aggravate the danger of the disease. At San Nazaro, near Brescia, the Austrian hospital-town after the battle of Solferino, a wounded Hungarian sergeant, whose three tent-comrades had died of typhus syncopalis ("spotted fever"), cured himself of the same disease by an absolute fast of eight days, not including the two days of his transport from the battle field, when he had taken a cup of coffee and a mouthful of bread. In malignant cases of yellow fever the revulsions of the bowels often invert the digestive process for days together; chyle, as well as the nutritive elements of the blood, are forced back upon the stomach and disgorged in that eruption of *eruo*r commonly called the "black-vomit"; and the ingestion of food would, under such circumstances, only aggravate the gastric distress.

With the power of assimilation the appetite for solid nourishment gradually returns; but this re-establishment, of the digestive process is greatly retarded by the obtrusion of a distasteful diet, especially animal food and all greasy-made-dishes. The peculiar dietetic whims of fever patients, their sudden cravings for a special kind of food, drink, or condiment, can with certain exceptions ("or the revival of an alcohol passion") be indulged without danger, and generally indicate a favorable turn of the crisis. "*Ya se va á volver; pide chilé*"—"He'll soon be all right; he's asking for chilé" (red pepper or pepper-sauce)—is a standing form of congratulation among the Spanish-American friends of a yellow-fever convalescent. But even with chilé they would hesitate to

tempt him with *garbanzas* or *guisado*, well knowing that the mere smell of greasy viands is often enough to bring on a relapse of the vomit. Disagreeable smells of any kind are, in fact, a potent adjuvant, if not independent cause, of a febrile diathesis. "A manufactory of artificial manure," says Professor Grainger, "formerly existed immediately opposite Chistchurch workhouse, Spitalfields, which building was occupied by about four hundred children with a few adult paupers. Whenever the works were actively carried on, particularly when the wind blew in the direction of the house, there were produced numerous cases of fever, of an intractable and typhoid form. . . The proprietor at last was compelled to close his establishment, and the children returned to their ordinary health. Five months afterward, the works recommenced; a day or two subsequently, the wind blowing from the manufactory, a most powerful stench pervaded the building. In the night following forty-five of the boys, whose dormitories faced the manufactory, were again seized with severe diarrhœa, while the girls, whose dormitories were in a more distant part, and faced in another direction, escaped. The manufactory having been again suppressed, there was no subsequent return of the diarrhœa," (Report on the Hygienic Condition of the Metropolis.").

The Turkish custom-house officers fumigate their quarantine-buildings with a powerful but agreeably aromatic kind of incense-powder, which seems to serve all purposes of disinfection, and could in many cases be substituted for the carbolic-acid libations that fill our hospitals with their scandalous odors.

To the stomach of a fever-patient, however, the smell of boiling fat is still more offensive, and kitchen-fumes should be carefully excluded from the sick-room.

If these precautions are adopted in time, a common remittent generally terminates with the third fit, and yellow fever takes the form of a "walking case," as the Memphis physicians call that mild type of the disease which limits its symptoms to a few shivering fits, and a night's headache, and seems, in fact, to be nothing but a modified sort of a summer ague. Every pyrexial affection is essentially an enteric disorder, a bowel-complaint, and dietetic management alone will generally insure a favorable issue of the disease. The Spanish cigar-peddlers and Spanish and Italian fruit-venders of New Orleans inhabit the vilest alleys of the "French quarter," but their frugality has saved them again and again, when their flesh eating neighbors died by hundreds. I have known vegetarians to survive in tenements where the rooms above, below, and around them were filled with fever-stricken families—decimated from week to week, dreading removal to the hospital like a sentence of death, but sticking to their flesh-pots and alcohol "tonics." How fruit, the chief febrifuge of nature, came ever to be suspected of being the *cause* of pyrexial disorders, would be utterly inexplicable without the analogies of the *post hoc ergo propter hoc* fallacy—our liability to mistake a coincidence for a causal connection. In cold weather the hyperborean biped retreats to his unventilated den and contracts a catarrh, which he ascribes, not to its true cause, foul air, but to *cold* air, having noticed that winter and pulmonary

affections are annual concomitants. Fruits, like countless other products of nature, are most abundant when they are most needed, and have for ages *preserved* the health of our tropical ancestors; but their carnivorous decendant ascribes his affliction, not to his daily beefsteaks, but to the occasional peaches and watermelons of which he happened to partake about the *time* the fever took hold of him. At the end of the year, when fruits become scarce, fevers too disappear, and the proof seems complete. Inductive logic; but the precipitate follower of Viscount Verulam fails to explain the fact that in the swampiest and hottest districts of the Eastern Continent fevers and fruits exclude each other like science and superstition, and the still stranger fact that hundreds of Northlanders who scrupulously abstain from fruit are nevertheless victimized whenever they brave the sun of the lower latitudes. In cholera the fruit-delusion may have derived a color plausibility from the circumstance that persons who have for months subsisted upon beef and farinaceous food are liable to an attack of diarrhœa after their first experiments with a more digestible diet. For analogous reasons a long incarceration makes a prisoner unable to bear the fresh air and clear light of the outer world. The creoles use pepper enough with their meat to dispense with other antiseptics, and yet eat fruit with every meal as the French serve a dessert of cakes and raisins—“*pour la bonne bouche.*” A dime's worth per day for every man, woman, and child, of such fruits as oranges, melons, or “Chickasaw plums,” that can be bought in almost every Southern town, would soon

ruin the business of the quinine-manufacturers and reduce the trade of the "bitters" distillers to customers who like to drink whisky under some more respectable name.

The Spaniards divide all articles of diet into *comidas frias* and *comidas calientes*; but their definition of calorific food does not quite coincide with Liebig's theory.* According to the nitrogenous and non-nitrogenous system, starch, sugar, gums, are "respiratory" food, and as exclusively heat-making as fat, while the experienced taught South American would unhesitatingly class starchy potatoes and starchy corn-bread with the *comidas frias*, the "cooling comestibles"; and flesh, eggs, and rich cheese with the heat-producers. Cold milk would be assigned to the former class, and, together with unleavened and "unshortened" bread, fruit, or fruit-jelly, constitutes the dietetic specifics for convalescents from climatic fevers. Subacid fruits are, on the whole, more cooling than purely saccharine ones (figs, for instance); but *bananas*, though sweetish rather than acid, are, *par excellence*, an anti-fever food, being refreshing, palatable, and nutritive, as well as exceedingly digestible. Oranges, biscuits, and cold water, during the critical stage of the disease—milk, bread, and bananas, after the crisis is past—ought to

* Professor Draper ("Human Physiology" p. 27) warns us that Liebig's classification has been only "adopted for the sake of convenience," having no natural foundation. Funke, in his "Lehrbuch der Physiologie," p. 186, accepts it with considerable reservation. Verdeil, Robin, Muller, and Moleschott, reject it as wholly untenable.

be the standard regimen in our semi-tropical seaport towns; inland and farther north substituting pears or baked apples, and perhaps sweet-potatoes, for bananas and watermelons for oranges. A frugal diet has the further advantage of obviating the tendency to fretfulness and splenetic humors which results from the use of animal food in indigestible quantities, i. e., in hot weather from a very moderate quantum. In midsummer, persons of a "nervous temper" could often cure their disposition by a change of diet, Mental energy exercises a remarkable influence on the idiopathic symptoms of climatic fever. Pluck is a febrifuge. Men of exceptional will-force, or under the stimulus of an exceptional enthusiasm, contrive to hold the foe at bay; they keep on their legs till their work is done, even though the presence of a febrile diathesis continues to manifest itself by indirect symptoms. During the carnival of chaos following the end of our civil war and preceeding the collapse of the Mexican "Empire," the Sheriff of Cameron County, Texas, undertook to escort a Mexican prisoner across the Rio Grande, in order to save him from a mob who unjustly but obstinately accused him of complicity in the "Cortina riot." It was a ticklish job, but the sheriff, though prostrated by a malignant ague and almost blind from the use of quinine, declined to intrust his *protégé* to a deputy, and preferred to rely on luck and his reputation as a "dead shot." Like most pistol *virtuosos*, he was able to fire off-hand, and was confident that no shakiness would interfere with the accuracy of his aim, but was rather uneasy on account of his impaired eyesight. But on

the morning of the critical day his fever left him, together with all sequelæ and concomitant symptoms, and he returned, with the conviction that the expedition had saved his own life as well as that of his prisoner.

Even scientific enthusiasm may exercise a similar prophylactic effect, and has supported more than one African explorer and East Indian officer whom no quinine could have saved from the combined influence of solar and animal heat. The trouble is, that the effect is so apt to subside with the cause : heroes and explorers who survive a summer campaign in the wilderness die upon the return to their comfortable winter quarters. The fate of Sir Stamford Raffles is a melancholy instance : A naturalist, a patriot, and a zealous philanthropist, his triple enthusiasm carried him safely through the swamiest regions of the Sunda Archipelago, and, as long as his expedition required his personal presence, Fortune seemed to favor him in every enterprise ; but, upon his return to his palatial residence at Bencoolen, he and all his household were prostrated by the jungle-fever, and, at the end of a life, perhaps unequalled for successful activity, he found himself bankrupt, childless, and hopeless. At a time when beef or pork steaks and a bottle of porter were the essentials of a Christian breakfast, a vegetarian official of the East India Company might have defied ill-luck to outweigh the advantage of permanent good health where good health obtained the highest premium. Even now, by their obstinate adherence to their native diet, the British residents of the East Indies are almost decimated every year, es-

pecially where the zymotic tendency of that diet is aggravated by the effect of foul air.*

For on the other hand it is equally sure that strict attention to ventilation and a liberal use of cold air and sponge-baths will palliate the effects of many dietetic sins. The patient has either to adapt his diet to the temperature of the South, or adapt his temperature to the diet of the North. Experience has taught the creoles to *take things coolly*. With all their excitable temperament, they avoid violent outbursts of passion; they do not overwork themselves; they preserve the even tenor of their way, even if they are behind time and know that their dinner is getting cold. And, above all, they indulge in liberal *siestas*. Hard work in the hot sun, with a stomach full of greasy viands, obliges the vital force to resist the triple fire of a furnace heated by the sun-rays, by exercise, and by calorific food. Brain-work, too, is apt, in hot weather, to exert an undue strain on the vital energies, and to complicate the difficulties of the digestive apparatus. Cold air is a peptic stimulant, but even in the North a man cannot labor with his brain without impeding the labors of his stomach; but, in the languid atmosphere of a southern marshland, that impediment becomes an absolute prevention, and the brain-worker who eats for the purpose

* "In the [East Indian] jails under British control there are usually confined no fewer than 40,000 prisoners, and the average annual mortality of the whole was recently ten per cent., rising in some cases to twenty-six per cent., or more than *one in four*."—Dr. MacKinnon's "Treatise on the Public Health of Bengal," Cawnpore, 1848, chap. 1.

of nourishing his organism had better save his food for supper than oblige his stomach to carry it for half a day in an undigested condition. For during that half day putrescent decomposition anticipates the work of gastric disintegration ; the ingesta ferment, catalytic humors pass into the circulation and prepare the way for the reception and development of zymotic germs from without. The hygienic alternative is, therefore, a long *siesta*, or a considerable postponement of the dinner-hour. South of Cape Hatteras, Nature exacts an account for every superfluous act that tends to raise the temperature of the system by a single degree. *Keep cool* becomes the first commandment of her sanitary code. He who scrupulously avoids anger, enthusiasm, and other calorific passions, who performs the principal part of the day's work in the cool of the morning, and eats his principal meal in the cool of the evening, who rests during the hottest hour of the afternoon, and takes active exercise only in the swimming school, may indulge in the dietetic prerogatives of the higher latitudes ; Nature will condone his beefsteaks, pork-fritters, and some of his cocktails ; his mince-pies will not rise and bear witness against him.

But the happier biped who can waive those prerogatives will free his stomach from the necessity of digesting winter food in a summer climate, and, in return, will enjoy the freedom of the land, the privilege to work, play, eat, rest, laugh, or get mad, at any time he pleases. He has reconciled himself to Nature, and shares the natural rights of the creatures who have not forfeited their earthly paradise ; for the arti-

fi-
cial comforts of the North are, after all, only more or
less imperfect imitations of the gratuitous luxuries
which our forefathers enjoyed in their tropical garden
home.

CHAPTER IV.

ASTHMA.

It has been said that no doctrine can ever attain a large degree of popularity without containing some admixture of truth. The rare exceptions from that rule do not include that most preposterous of all medical theories, the "Brunonian System of Physics." John Brown, M. D., of Preston, Scotland, divided all disorders of the human organism into "sthenic" and "asthenic" diseases: the former produced by an excess of vitality, and to be counteracted by bleeding and cathartics; the latter arising from a defect of vital power, and to be cured by beefsteaks and brandy, etc. The grain of truth in the chaff-barrel of absolute nonsense is the pathological influence of *asthenia*, or a deficiency of vital power. Impaired vitality cannot be restored by alcoholic stimulants, but its causal connection with a large number of functional disorders admits of no doubt. Every process of the animal organism derives the impulse of

its normal performance from a reserve fund of vital energy and the depletion of this fund impairs the efficiency of the organic functions. A man may be too tired to sleep. A child may be too feeble to breathe, too weak to assimilate its food. Exhaustion alone may lead to that total suspension of the vital process which we call death.

But generally *asthenia* is only a proximate cause of disease. It reveals a pre-established morbid diathesis by affecting the weakest part of the organism, and its influence becomes thus localized. The affected part may become the center of attraction for a variety of asthenic agencies, for each successive attack increases the morbid diathesis, and thus, as it were, confirms the pathological precedent. This convergence of asthenic influences is most strikingly illustrated in the pathology of the asthmatic affections. Asthma, or chronic dyspnoea, a torpor of the semi-voluntary muscles which effect the process of respiration, has thus far not been traced to its original cause. Professor Reese ascribes it to a spasm of the muscular fibers inclosing the bronchial tubes; Dr. E. Bock defines it as a diminished elasticity of the pulmonary air-cells, caused by an undue dilation of the lungs (as in violent exercise). Villemin considers it as a purely nervous affection. In its most frequent form, however, it seems to be a legacy of arrested tuberculosis—an intermittent affection induced by a tendency to a pulmonary torpor that may remain latent for an indefinite time, but unmistakably connected with an asthenic proximate cause. Chronic asthma, in the strictest sense of the word, occurs only during

the last stage of pulmonary consumption. When the lungs have been reduced to a certain degree, their utmost activity is insufficient to supply the needs of the organism, and the patient suffers the tortures of an irremediable air-famine. The automatic action of the lungs has to be supplemented by a desperate muscular effort, the motions of the contracted organ become spasmodic and wheezing, the sufferer is unable to breathe in an horizontal position, and after a short slumber awakens with a sense of suffocation. But a chronic disposition to all these symptoms in their extreme malignity may exist without a phthisical diathesis, and remain latent for weeks and years. The exciting cause generally operates without a moment's warning. During the laborious digestion of a heavy dinner, or even after a moderate meal, eaten on a sultry day, the process of respiration begins to alternate with inert pauses, relieved at first by an occasional yawn, by-and-by only by a violent gasp; a feeling of uneasiness supervenes, the air-deficit becomes more and more perceptible, and the patient suddenly realizes that he is booked for a five days' struggle with a pulmonary torpor. Changes of temperature, a sudden thaw in midwinter, or a sultry day after a protracted rain, have a similar tendency, but the most frequent proximate cause is violent mental emotion — fear, anxiety, and especially suppressed anger. Nothing else so strikingly illustrates the intimate interaction of mental and physical conditions as this sudden pathological effect of a purely physical cause. In the same instant almost, when a fit of wrath—even in the form of a transient irritation

accelerates the throbbing of the heart, its reaction on the respiratory organs betrays itself by a spasmodic gasp, the patient instinctively clutches his ribs and tries to master the incipient mischief, but emotional asthma is a form of the disease that can rarely be nipped in the bud; the *primum mobile* cannot be revoked; the sufferer may think himself lucky to get off with a result of twenty-four hours' misery. Excessive exercise—lifting weights, running, wrestling, etc.—is merely an adjuvant of the fore-named cause. With his mind at ease, an asthmatic may chop cordwood on the warmest day in the year, carry cornsacks, or run up-hill till his lungs are ready to burst with panting; that panting will be entirely distinct from the ineffectual gasps of the air-famine. But, under the depressing influence of mental worry, an exhausting physical effort will bring on a fit of asthma as surely as heat and exercise would result in perspiration.

Among the rarer proximate causes are loss of blood, starvation, nervous exhaustion from mental overwork, sexual excesses, and sudden fright, or rather the *shudder* which sometimes follows the nervous shock produced by a real or imaginary danger, as a slip of the foot at the brink of a steep declivity, a snake-panic, the unexpected visit of a stranger, etc. *Nausea* in some of its forms may produce an analogous effect. "A young lady" says a correspondent of the London "Lancet," was sitting at dinner, apparently in perfect health. She partook, among other things, of some rabbit, and in about ten minutes or so after she had eaten of it she was attacked with acute ur-

ticaria (nettle-rash), showing large erythematous patches and wheals very prominent on the face and neck. She then was seized with violent attacks of spasmodic asthma, which obliged her to leave the table. I inquired if she had ever suffered this before, and she informed me she had after eating hare."*

Chronic asthma is a warm weather disease. The first frosts mitigates its worst symptoms as surely as it would cure a fever or relieve insomnia, and "hay-asthma," often ascribed to the effect of some vegetable pollen, is probably a consequence of the relaxing influence of the first warm weather; for in midwinter, when the air is entirely free from vegetable spores, a single mild day, following upon a protracted frost, may produce symptoms exactly resembling those of a hay-catarrh. Spasmodic asthma is often aggravated by a humid atmosphere, and its worst attacks are apt to occur at the end of the year, on damp November days, or during a thaw, following a bracing frost. The complication of chronic bronchitis, sometimes described as bronchial asthma, should properly be called bronchial congestion, and differs from an asthmatic affection as a constipation differs from a gastric spasm. Asthma proper occurs under three forms: phthisical asthma (in the last stage of pulmonary consumption), chronic asthma, and acute spasmodic asthma. In the latter phase the disease recurs at longer intervals than in its chronic forms and limits its attacks to a few minutes or hours, but involves a greater

* Quoted in the St. Louis "Eclectic Medical Journal," June, 1883 p. 269.

amount of distress than any other disorder of the pulmonary organs—not excepting the pleuritic tortures of pneumonia. In pneumonia the difficulty of breathing consists in its painfulness ; in asthma, in the *persistent torpor* of the respiratory organs. The patient feels as if the expansion apparatus of his chest were utterly paralyzed, the inhaled breath seems to come to the gate of the lungs and no farther ; no gasping avails ; the increasing distress of the air hunger appears only to aggravate the stubbornness of the inert organ. The violence of the paroxysm often turns the color of the face into a livid purple, the throbbing of the heart becomes spasmodic, but, when the hopes of the sufferer are almost reduced to the supposed euthanasia of strangulation, the rigor suddenly relaxes, a deep gasp fills the lungs to their very bottom, and a few minutes after the breathing becomes quiet and regular, and only a cold perspiration reminds the patient that he has passed through the chill shadow of death.

As the primary cause of asthma is as yet unknown, its diathesis is not directly curable, though its latency may be prolonged by avoiding and counteracting the well-ascertained proximate causes. The mode of treatment varies with this twofold object : prevention and palliation—which frequently differ where we have to deal with spasmodic affections that call for the promptest means of relief. Thus horseback-riding is an approved cure for epilepsy, but during the progress of the fit the application of the specific might lead to strange consequences. Yacht-sailing in a storm would be a bad way of curing sea-sickness,

though it diminishes the danger of future attacks. We have seen that a strenuous physical effort can under circumstances become the direct cause of an asthma-paroxysm, yet under proper precautions exercise is the best corrective of an asthmatic disposition: for all vital vigor is based upon muscular strength. It would be a mistake to suppose that the invigoration of the lungs alone could be a protection against asthma. An asthmatic diathesis may co-exist with a perfect freedom from the usual symptoms of weak lungs; nay, chronic asthma seems to counteract the development of pulmonary phthisis. The asthmatic predisposition seems rather to consist in a general want of vital energy, and the object of the treatment should therefore be the invigoration of the whole system, not only by means of "chest-expanders" alone by out-door life, pleasant exercise—such as gardening, hunting, or co-operative gymnastics—by a free use of cold water, and a liberal but non-stimulating diet. The latter proviso would exclude a large number of comestibles which the Brunonians would enumerate among the essentials of a "tonic regimen": The beef-and-beer cure deals in sham-remedies. We are not nourished by what we eat, but by what we digest. Plethora is not strength, but often its very opposite: the accumulation of expletive fat impairs the disease-resisting power of the organism; a gaunt wood-cutter, a wiry peddler or mail-rider, will survive epidemics that slaughter hecatombs of stall-fed burghers. The modern macrobiots, the long-lived inhabitants of the Ionian Archipelago, subsist on figs, goat-milk, and maize bread; the herculean natives

of the eastern Caucasus, live on honey, barley-cakes and poor cheese. The self-made Samson of modern times, Dr. Winship, of Boston, satisfied his craving for animal food with an occasional box of oiled sardines, and, on a diet of fruit and farinaceous dishes, spiced with daily gymnastics, made his body a complex of superhuman muscles and sinews. A constitution, built up after that pattern, might not secure the possessor against heart-disease, nor—if he confined himself to in-door gymnastics—against consumption, but it would insure him against asthma. In ninety-nine out of a hundred cases, an asthmatic disposition is combined with a deficient muscular development.

The pathological peculiarities of the disease make it safest to begin the movement-cure in mid-winter, and suspend it during premature spring weather, and again during the moist, hot weeks of early summer—*June* being, *par excellence*, the asthma month of the year. I have known people who could foretell the week when they had to get their "asthma-weeds" ready. By a permanent suspension of his exercise an hygienic gymnast would gradually lose the gained vantage-ground, but during a few days' pause the unemployed surplus of vital energy is put at the disposition of the organism. Such pauses, therefore, become advisable whenever the premonitory symptoms of the disease indicate the agency of asthenic influences, and for greater security also after every annoying mental emotion. The occasions for such annoyances should, however, be carefully avoided, even at the risk of incurring the penalties of social non-conformity. An asthmatic old Antwerp merchant of my acquaintance

used to retire to his *gartenhuys*, a little summer-house at the farthest end of his garden, whenever his feelings became unduly excited, and also after dinner, as he had noticed that an interruption of his *siesta* was apt to re-act on his lungs. One afternoon, however, he had a visit from a commercial associate who had threatened to break the partnership, but now came to lubricate matters and tender a very acceptable peace-offering. At his return from the interview Mynheer made no attempt to conceal his glee, but suddenly became thoughtful and monosyllabic. "What's the matter?" asked his broker, "are you afraid it's a trap?"—"No, no," said he, "N—is all right, but,"—with a sigh—"d—n him, anyhow; it will cost me a week's tussle with old Nick." "With the asthma? What!—the mere excitement?"—"Yes," he groaned, "the talk, the miserable formalities, and the tight neck-tie—and right after dinner!"

Any waste of vital power may bring on a fit of spasmodic asthma, and the aggravating effect of *incontinence* is so prompt and so unmistakable that experience generally suffices to correct a *penchant* to errors in that respect. Like gout, asthma is a moral censor, but its reproofs do not so often come too late. With an ordinary amount of will-force, even persons of an inherited tendency to asthma may manage for years to keep its worst symptoms in abeyance.

Among the palliatives of spasmodic asthma COLD WATER ranks first. A plunge-bath into a pond (or tub) of water, of a sufficiently low temperature to produce a gasp and a shiver, rarely fails to break the spell of

the suffocating stricture. It is the most reliable remedy, for, unlike chemical antispasmodics, it acts irrespective of precedents—its efficiency does not decrease with each subsequent application. After the second or third time, “asthma-weeds” have to be used in almost lethal doses before they produce any appreciable effect, though their disagreeable *after-effects* are perceptible enough. For these weeds are generally strong narcotic poisons. *Tabac de Chine*, or “Chinese tobacco,” is a mixture of tobacco-leaves and inspissated opium. Stramonium (*Datura ferox*) is as virulent as belladonna, and the smoking of the leaves produces vertigo, heart-spasms and violent headaches. It does relieve asthma, on the principle that diseases yield to more serious diseases. Thus the languor of dyspepsia can be temporarily relieved by alcoholic stimulants, but the dose has to be steadily increased, till the remedy becomes worse than the original evil. Such household remedies as black coffee (swallowed by the quart) or sulphur and vinegar fumes are liable to some objection. They help once or twice, and afterward only in monster doses. *Coffee-poisoning*, which old *habitués* avoid by a very gradual increase of the dose, is a frequent sequel of an asthma-cure by domestic narcotics. The mediæval physicians, with their *penchant* for heroic remedies, cured asthma with actual cautery—the application of a hot iron to the ribs of their patients, who naturally preferred the risk of suffocation. Dr. Zimmermann ascertained that the mere proposition of the hellish corrective made the delinquent gasp in a way that relieved the stricture. But the agreeable disappoint-

ment probably impaired the efficiency of subsequent threats; and the chill of a cold plunge-bath never fails to produce a contraction of the diaphragm that serves the same purpose.

After the first strangling-spell has been relieved, a very simple mechanical contrivance will help to restore the regularity of the respiration. Take a straight stick, about six feet long and one inch in diameter, and mark it from end to end with deep notches, at regular intervals, say two inches apart, with smaller subdivisions, as on the beam of a lever-balance. Then get a ten-pound lump of pig-iron, or a large stone, and gird it with a piece of stout wire, so as to let one end of the wire project in the form of a hook. The exercise consists in grasping the stick at one end, stretching out arm and stick horizontally like a rapier at a home thrust; then draw your arm back, and (still keeping the stick horizontal) make your hand touch your chin, thrust it out again, draw back, and so on till the forearm moves rapidly on a steady fulcrum. Next, *load* the stick—i. e., hook the stone to one of the notches and try to move your arm as before. It will be hard work now to keep the stick horizontal; even a strong man will find that the effort reacts powerfully on his lungs; he will puff as if the respiratory engine were working under high pressure. On the same principle, the lungs of a half-drowned man may be set a work by moving the arms up and down, like pump-handles. But the weighted stick, bearing against the sinews of the forearm, still increases this effect, and overcomes the stricture of the asthmatic spasm, as the movement of the loose arms relieves

the torpor of the drowning-asphyxia" ("Physical Education," p. 137).

But a lethargic feeling about the chest still remains behind: the spasm has ceased to obstruct the entrance of the air, but breathing has still to be effected by an effort of the voluntary muscles, as if the lungs were yet too weak to perform their proper work. After an attack of spasmodic asthma this lethargy may continue for twenty-four hours; in chronic asthma where it constitutes the chief symptom of the complaint, it may last for a week or two. Next to out-door exercise, the best corrective is *conversation, laughing and singing*—and continued vocal effort seems to overcome the passive resistance of the torpid organ. Many physicians must have noticed that a large proportion of their asthma-patients are persons of solitary habits. Laughter is a peptic stimulant, while silence and brown studies favor dyspepsia, asthma, and sleeplessness. Bed-ridden garret-dwellers can at least talk to themselves; and with the aid of a pet squirrel or a copy of the *Asthma-Cure Almanac*, may manage to organize an occasional private laugh. Wealthy bachelors should at once pack a valise, and (as the period of their martyrdom will generally coincide with the excursion-season) take a steam-boat to some popular picnic grove, and associate with the noisiest and merriest of their traveling-companions. Mirth itself has a stimulating effect. Sorrow deadens the energy of the vital powers, for Nature is too economical to prolong a losing game, and, if the burdens of life begin to outweigh its pleasures, the organic apparatus gravitates toward a suspension of its functions.

The mainspring has lost its tension. But, if life becomes visibly worth living, the soul procures a new lease of vital power; every organ seems to work with a will, and asthenia disappears without the aid of Dr. Brown's brandy bottles. "Being happy," says Ludwig Boerne, "is a talent that can be cultivated"—¹ certainly a talent of great hygienic value; the gift of confining the flow of ideas to a pleasant channel, of wearing roseate spectacles as others would wear an electric belt, of enjoying life by a sheer effort of will-force, may be a faculty that can only be exercised during a limited period, but that period suffices for the cure of various distressing complaints, insomnia for instance, and many symptoms of chronic dyspepsia, but especially chronic asthma. Asthma does not prevent longevity; there are people who have smoked stramonium-leaves for half a century, and, if they had chronicled their experience, they would find that in the dullest years they had to light the greatest number of pipes. A piece of good news is worth bushels of asthma-weeds; bouyant spirits seem to react directly on the stringency of the bronchial tubes and the relief thus obtained is not apt to be followed by a relapse.

There is also a curious correlation between asthma and *close stools*. They come and go together. Any thorough and permanent aperient serves at the same time as an asthma-cure. Drastic purges act only for a day or two, and leave the bowels in a worse condition than before. The cathartic effect of Glauber-Salt, for instance, is almost invariably followed by an astringent reaction. For a permanent relief of costiveness

a change of diet is the safest plan, and no dietetic aperient of the Graham school can compare with the three legumina—beans, lentils, and peas. Stewed prunes rank next, and next such household remedies as black-berry-soup clabber and rye-bread, or molasses with warm water. But the aperient effect of molasses decreases after each repetition of the dose, while stewed peas taken like medicine, three times a day, will prevail where Glauber's-salt fails. As an asthma-cure it can do no harm to apply the remedy beyond the alimentary wants of the system, temporary overeating being a lesser evil than continual under-breathing. At the end of the second or third day the bowels will yield, and the simultaneous improvement of the asthma-symptoms is generally permanent. *

*Hospitals statistics have revealed the fact that the inhabitants of the beer-drinking countries of Southern Germany enjoy a remarkable immunity from asthmatic affections, while both among the North-German schnapps-drinkers and the abstemious natives of Southern France the complaint is almost as frequent as consumption. In explanation of the paradox some German doctors have alleged the "diffusion of the tonic effect" secured by the large quantity of the Bavarian stimulant; others, the demulcent influence of malt-liquors. The key of the enigma, I suspect, is the peptic influence of a liberal diluent. Our greasy, pungent, and concentrated diet needs a larger admixture of fluids. The dread of cold water, and of water-drinking during meals, is a consequence of the sadly prevalent delusion that suspects the competency of our natural instincts. The food of our arboreal relatives contains at least eighty per cent. of pure water; diet of the grape-cure patients about ninety-five per cent. Instinct is a pretty safe guide in such matters, and, unless the habitual indulgence in distilled liquors has made water distasteful, the stomach craves about a pint of fluids for each pound of solid food. Fresh water is healthier than beer, but even in the form of lager-beer an abundant diluent would relieve the symptoms of gastric distress resulting from a daily struggle with an overdose of undiluted viands.

In exceptionally malignant cases it may be necessary to supplement the legumen-cure by refrigeration—sponge-baths,—or artificially cooled bedrooms; and while there is any danger of a relapse it is the safest plan to postpone the bed-hour beyond the usual time. After rolling and tossing about till relieved by that form of sleep which the Germans call “Ein-Dämmern”—the twilight state between sleeping and waking—the patient is almost sure to start up with a feeling of strangulation, but the slumber induced by the silence and drowsiness of the small hours is not apt to be thus interrupted. Leaving the club-house at 11 p. m., or the family circle at 10; then a few hours with an interesting book, reserved for that special purpose; perhaps a little midnight lunch (but no coffee, unless habit has palliated its anti-hypnotic effect); then a somnolent old story-book; an easy chair within reach of a boot jack, ready to take advantage of the first drowsy spell—for those spells come and go—and a well-timed attempt will secure immediate success, with large odds in favor of a good night's rest.

An horizontal position aggravates dyspnœa, and with a few extra pillows, or by simply raising the head of the bedstead, the patient can sleep in a *half-sitting posture*, and should still further assist nature by opening the bed-room windows, or removing his bed to the airiest place in the house. After a heavy supper an unventilated dormitory alone can lethargize the lungs to a suffocating degree, for a nightmare is nothing but a transient fit of asthma.

Fresh air, combined with a *lung stimulating exercise*,

is the last resort in an obstinate case of chronic asthma, and a foot-journey in summer adds to those stimulants the too often underrated nerve-tonic of *sunlight*. Maurus Nagy, the Hungarian *Natur-Doctor*, used to cure his asthma-patients by making them strip to the waist, and keeping them at work in his mountain-vineyard. The ancient Romans had establishments for regular sun-baths (*solaria*); and I cannot help thinking that the robust health of their country population had much to do with their habit of working bareheaded and bare-shouldered in sunlit fields, inbibing vitality at the fountain-head, for the same sun that evolved the fern-forests of the Miocene alluvium has still means of his own for quickening the vital energy of the most complex organisms. That tonic catholicon operates even through the triple teguments of a French uniform. After the tedium of a long voyage, and the delay in the Vera Cruz harbor-barracks, the French troops in Mexico suffered from a form of asthma that resisted all medication, but a six day's march through the hills of the *tierra templada* brought permanent relief, except to a few invalids who had been transported in closed ambulances. At first, though, the remedy is apt to aggravate the evil. After a couple of sleepless nights, the first day of a pedestrian tour, even through the paradise of a June landscape, is steep, uphill work, but, with the aid of a merry traveling-companion and a light knapsack, Nature will at last prevail, and three days' hardship is a cheap price for the remission of a three weeks' daily and nightly martyrdom—besides the possible sequelæ. For the chief danger of chronic asthma

is the probability of serious pathological complications. The direct result of *dyspnœa* is the impoverishment of the blood by impeded process of aeration, and the concomitants of the disease are therefore analogous to those of pulmonary phthisis and protracted indoor life—hypertrophy of the heart, emphysema, or swelling of the lungs, inflammation of the bronchi, dropsical swellings of the extremities. Even short attacks often lead to malignant after-effects—insomnia, indigestion, headache, and a peculiar affection of the lungs that closely simulates the premonitory symptoms of pneumonia; after the asthma proper has entirely subsided, a new difficulty of breathing supervenes in the form of twitching pains in the pleura and the upper lobes of the lungs. Before the end of the second day, rest, embrocations with hot mutton-tallow, and a spare diet generally relieve these symptoms, which follow more frequently after a drug-suppressed case of asthma than after the pedestrian-cure. The latter method of treatment is intuitively indicated by the *restlessness* of asthma-patients. The same hygienic instinct which makes a passionate longing for refrigeration a regular symptom of climatic fevers seems here to prompt peripatetic enterprises by associating indoor life with the idea of apoplexy and suffocation.

Like consumption, asthma is a house-disease. Want of fresh air and exercise will counteract all prophylactics, while the outdoor liver can confine his precautions to the beginning of the warm season. A frugal diet, both as an hygienic aperient and a sedative of irate passions, will help the patient over the asthma-weeks (May and June in the north, and

April and May in the lower latitudes) ; an airy bedroom and cold baths, over the summer season. The winter months will take care of themselves and every year thus passed diminishes the danger of relapse.

CHAPTER V.

THE ALCOHOL HABIT.

In the tragedy of errors, called the history of the human race, ignorance has often done as much mischief as sin; and the erroneous theories of the cause—and, consequently, the proper cure—of the *Poison-Vice* have caused nearly as much misery as that vice itself. They have made intemperance an all but incurable evil; they have helped to originate the dogma of natural depravity, the confidence in the efficacy of anti-natural remedies, and that baneful mistrust in the competence of our natural instincts that still vitiates our whole system of physical education.

Physiology is a true thaumaturgic science—a description of wonders. The veriest savage must dimly recognize the fact that man cannot measure his cunning against the wisdom of the Creator, and, if the development of science should continue at the present rate of progress for a thousand generations, the accumulated knowledge of all those ages would convince its inheritors that a blade of grass is a greater marvel

than all the products of human skill. No human artificer can imitate the mechanism of a motor-nerve; the structural devices which the microscope reveals in the tissue of the meanest moss are perfect hyperboles of wisdom and plastic skill. But the greatest miracles of that wisdom manifest themselves in the self-protecting contrivances of a living organism.

Our nervous system performs its functions by a combination of alarm signals that apprise us of an infinite variety of external dangers and internal needs, in a language that has a distinct expression for every want of our alimentary and respiratory organs, for every distress of our tissues, sinews, and muscles, for every needed reaction against the influence of abnormal circumstances; our skin protests against every injurious degree of heat and cold, our lungs against atmospheric impurities, our eyes against the intrusion of the smallest insect; the human body is a house that cleanses its own chambers and heats its own stoves, opens and shuts its windows at proper intervals, expels mischievous intruders, and promptly informs its tenant of every external peril and internal disorder.

How, then, can it be explained that the wonderful architect of that living house has provided no better safeguard against such a dreadful danger as the alcohol-habit? Millions of our fellow-men complain that they owe their temporal and eternal ruin to the promptings of an irresistible appetite—as if Nature herself had lured them to their destruction. Temperance-preachers descant on the “danger of worldly temptations” and “selfish indulgence,” on the “lusts of

unregenerate hearts." Drunkards plead their willingness to reform, but "the flesh is stronger than the spirit," the clamors of instinct silence the voice of every other monitor. Does the power of such appetites not suggest the occasional incompetence of our natural intuitions? Does it not seem to confirm the dogma of natural depravity, and prove an essential defect in the constitution of our physical conscience? Nay, in the light of Nature, for reason too often fails to supply the shortcomings of instinct; the teachers whom the ignorant must follow seem themselves to be in need of a guide; the stimulant-vice has found learned and plausible defenders; zealous priests of Moloch have worshiped the man-devouring fire as a sacred flame; for thousands of honest truth-seekers the disagreement of doctors makes it doubtful if alcohol is a friend or a foe, a health-giving tonic or a death-dealing poison.

Does all this not prove that, in one most important respect, Nature has failed to insure the welfare of her creatures?

What it really proves is this: That habitual sin has blunted our physical conscience till we have not only ceased to *heed*, but ceased to *understand*, the protests of our inner monitor; it proves that the victims of vice have so utterly forgotten the language of their instincts that they are no longer able to distinguish a natural appetite from a morbid appetency.

For the Creator has not intrusted our physical welfare to accident or the tardy aid of science, and, in spite of the far-gone degeneration of our race, our children still share nearly all the protective instincts of the

Nature-guided animals. Children abhor the vitiated air of our city tenements; they need no lecturer on practical physiology to impress the necessity of outdoor exercise; their instinct revolts against the absurdities of fashion and the unnatural restraints of our sedentary modes of life. And the same inner monitor warns them against dietetic abuses. Long before Bichat proved that our digestive organs are those of a frugivorous animal, children preferred apples to sausages and sweetmeats to greasy-made dishes; they detest rancid cheese, caustic spices, and similar whets of our jaded appetites. No human being ever relished the first taste of a "stimulant." To the palate of a healthy child, tea is insipid; the taste of coffee (unless disguised by milk or sugar) offensively bitter, laudanum acrid-caustic; alcohol as repulsive as corrosive sublimate. No tobacco-smoker ever forgets his horror at the first attempt, the seasick-like misery and headache—Nature's protest against the incipience of a health-destroying habit. Of lager-beer—"the grateful and nutritive beverage which our brewers are now prepared to furnish at the rate of 480,000 gallons a day"—the first glass is shockingly nauseous—so much so, indeed, as to be a fluid substitute for tartar emetic. Nor do our instincts yield after the first protest: nausea, gripes, nervous headaches, and gastric spasms, warn us again and again. But we repeat the dose, and Nature, true to her highest law of preserving existence at any price, and feeling the hopelessness of the life-endangering struggle, finally chooses the alternative of palliating an evil for which she has no remedy, and adapts herself to the abnormal con-

dition. The human body becomes a poison-engine, an alcohol-machine, performing its vital functions only under the spur of a specific stimulus.

And only *then* the unnatural habit begets that craving which the toper mistakes for the prompting of a healthy appetite—a craving which every gratification makes more exorbitant. For by-and-by the jaded system fails to respond to the spur: the poison-slave has to resort to stronger stimulants; rum and medicated brandy now mock him with the hope of revived strength; the gathering night still gives way to an occasional flickering-up of the vital flame, till the nervous exhaustion at last defies every remedy: the worshipper of alcohol must consummate his self-sacrifice, the shadow of his doom has settled on his soul, and all the strongest stimulants can now do for him is to recall a momentary glimmering of that light which filled the unclouded heaven of his childhood.

In order to distinguish a poison-stimulant from a harmless and nutritive substance, Nature has thus furnished us three infallible tests:

1. *The first taste of every poison is either insipid or repulsive.*
2. *The persistent obtrusion of the noxious substance changes that aversion into a specific craving.*
3. *The more or less pleasurable excitement produced by a gratification of that craving is always followed by a depressing reaction.*

The first drop of a wholesome beverage (milk, cold water, cider fresh from the press, etc.) is quite as pleasant as the last: the indulgence in such pleasures is not followed by repentance, and never begets a

specific craving. Pancakes and honey we may eat with great relish whenever we can get them, but, if we can't, we won't miss them as long as we can satisfy our hunger with bread and butter. In midwinter when apples advance to six dollars a barrel, it needs no lectures and midnight prayers to substitute rice-pudding for apple-pie. A Turk may breakfast for thirty years on figs and roasted chestnuts, and yet be quite as comfortable in Switzerland, where they treat him to milk and bread. Not so the dram-drinker: his "thirst" cannot be assuaged with water or milk, his enslaved appetite craves the wonted tipples—or else a stronger stimulant. Natural food has no effect on the poison-hunger; Nature has nothing to do with such appetites.

The first choice of any particular stimulant seems to depend on such altogether accidental circumstances as the accessibility or cheapness of this or that special medium of intoxication. Orchard countries use distilled or vinous tipples; grain-lands waste their products on malt-liquors. The pastoral Turkomans fuddle with *koumiss*, or fermented mare's-milk, the Ashantees with sorgho-beer, the Mexicans with pulque (aloe-sap), the Chinese and Persians with opium and hasheesh (*Cannabis Indica*), the Peruvians with the acrid leaves of the cocoa-tree. Even mineral poisons have their votaries. There are thousands of arsenic-eaters in the southern Alps. Arsenious acid, antimony, cinnabar, and acetate of copper, are mistaken for digestive tonics by Spanish and South American miners. By the process of fermentation, rice, sago, honey, sugar, durrha (*Sorghum Vul-*

gariis), dates, plums, currants, and innumerable other berries and fruits, have been converted into stimulants. The pastor of a Swiss colony on the Llanos Ventosos in the Mexican State of Oaxaca told me that the Indians of that neighborhood stupefy themselves with macerated *cicuta*, a kind of water-hemlock, and remarked that the delirium and the subsequent reaction of a *cicuta*-debauch correspond exactly to the successive phases of a whiskey-spreed, the only difference being in the price of the tippel. If intoxication were a physiological necessity, it would, indeed, be folly to buy the stimulant at the dram-shops, since cheaper poisons would serve the same purpose. A dime's worth of arsenic would protract the stimulant-fever for a week, with all the alternate excitements and dejections of an alcohol-revel. A man might get used to phosphorus and inflame his liver with the same lucifer-matches he uses to light his lamp; we might gather jimson-weed or aconite, or fuddle with mushrooms, like the natives of Kamchatka, who prepare a highly-intoxicating liquor from a decoction of the common fly-toadstool (*Agaricus maculatus*).

These facts teach us two other valueable lessons, viz., that *every poison can become a stimulant*, and that *the alcohol-habit is characterized by all the symptoms which distinguish the poison-hunger from a natural appetite*. One radical fallacy identifies the stimulant-habit in all its disguises; its victims mistake a process of *irritation* for a process of *invigoration*. The self-deception of the dyspeptic philosopher, who hopes to exorcise his blue-devils with the fumes of the weed

that has caused his sick-headaches is absolutely analogous to that of the pot-house sot who tries to drown his care in the source of all his sorrows; and there is no reason to doubt that it is precisely the same fallacy which formerly ascribed remedial virtues to the vilest stimulants of the drug-store, and that, with few exceptions, the poisons administered for "medicinal" purposes have considerably increased, instead of decreasing, the sum of human misery.

The milder stimulants (light beer, cider, and narcotic infusions) would be comparatively harmless, if their votaries could confine themselves to moderate *dosis*. For sooner or later the tonic is sure to pall while the morbid craving remains, and forces its victim either to increase the quantity of the wonted stimulant, or else resort to a stronger poison. A boy begins with ginger-beer and ends with ginger-rum; the medical "tonic" delusion progresses from malt-extract to Munford's Elixir; the coffee-cup leads to the pipe, and the pipe to the pot-house. Wherever the nicotine-habit has been introduced, the alcohol-habit soon follows. The Spanish Saracens abstained from all poisons, and for seven centuries remained the teachers of Europe in war as well as in science and the arts of peace—freemen in the fullest sense of the word, men whom a powerful foe could at last expel and exterminate, but never subdue. The Turks, having learned to smoke tobacco, soon learned to eat opium, and have since been taught to eat dust at the feet of the Muscovite. When the first Spaniards came to South America they found in the Patagonian highlands a tribe of warlike natives who were entire-

ly ignorant of any stimulating substance, and who have ever since defied the sutlers and soldiers of their neighbors, while the tobacco-smoking red-skins of the North succumbed to fire-water. In the South Sea Islands, too, European poisons have done more mischief than gunpowder : wherever the natives had been fond of fermented cocoa-milk, their children became still fonder of rum ; while the Papuans, whose forefathers had never practiced stimulation, have always shown an aversion to drunkenness, and in spite of their ethnological inferiority have managed to survive their aboriginal neighbors. International statistics have revealed the remarkable fact that the alcohol-vice is most prevalent—not in the most ignorant or most despotic countries (Russia, Austria, and Turkey), nor where alcoholic drinks of the most seductive kind are cheapest (Greece, Spain, and Asia Minor), but in the *commercial countries that use the greatest variety of milder stimulants*—Great Britain, Western France, and Eastern North America. Hence the apparent paradox that drunkenness is most frequent among the most civilized nations. The tendency of every stimulant-habit is toward a stronger tonic. Claude Bernard, the famous French physiologist, noticed that the opium-vice recruits its female victims chiefly from the ranks of the veteran coffee-drinkers ; in Savoy and the adjoining Swiss cantons kirsch-wasser prepares the way for arsenic ; in London and St. Petersburg many ether-drinkers have relinquished high wines for a more concentrated poison, and in Constantinople the Persian opium-shops

have eclipsed the popularity of the Arabian coffee-houses.

We see, then, that *every poison-habit is progressive*, and thus realize the truth that there is no such thing as a harmless stimulant, because the incipience of every unnatural appetite is the first stage of a progressive disease.

The facts from which we draw these conclusions have long been familiar to scientific specialists, and have separately been commented upon; but in science, as in morals, the progress from special to general inferences is often amazingly slow. The ancient Athenians would have shuddered at the idea of selling and buying a burgher of their own city, but had no hesitation to enslave the Greeks of the neighboring States. The Romans enfranchised the citizens of Latium, and at last all the natives of the Italian Peninsula, but kidnapped all the "barbarians they could lay their hands upon! The French and Spaniards of the last century were deeply shocked at the indiscriminate man-hunts of the Algerian corsairs, and even refused to retaliate on the men of Argel, because, in spite of their black turpitude many of those misbelievers had something like a Caucasian skin on their faces, but those same moralists thought it perfectly proper to kidnap and cowhide the black sons of Ham; but, since the children of a negress were as salable as their mothers, and miscegenation and mistakes could not always be avoided, it sometimes happened that the auctioneer got hold of a white slave, till William Wilberforce at last arrived at the grand conclusion that all human

slavery is wrong. More than a hundred years ago, Dr. Boerhaave entered an emphatic protest against rum, French high-wines, and "other adulterated spirits," but confessed a predilection for a drop of good *Schiedam*. Dr. Zimmermann objected to all distilled liquors, but recommended a glass of good wine, and a plate of beer-soup—the latter a Prussian invention, and one of those outrages on human nature that embittered the childhood of Frederick the Great. The hygienic reformers of our own country denounce intoxicating drinks of all kinds, but connive at mild ale, cider, opiates, narcotics, and patent "bitters." The plan has been thoroughly tried, and has thoroughly failed. We have found that the road to the rum-shop is paved with "mild stimulants," and that every bottle of medical bitters is apt to get the vender a permanent customer. We have found that cider and mild ale lead to strong ale, to lager-beer, and finally to rum, and the truth at last dawns upon us that the only safe, consistent, and effective plan is Total Abstinence from all Poisons.

We have seen that the poison-habit is a upas-tree that reproduces its germs from the smallest seeds; but where did the first seed come from? How did the life-blinding delusion happen to take root in the human mind? "Man is the only suicidal animal," says Dr. Haller, "and the first opium-eater was probably some life-weary wretch who tried to end his misery by a lethal dose, and found that his poison could be used as a temporary nepenthe." The physiologist Camper ascribes the introduction of alcoholic liquors to the experiments of unprincipled physicans;

but the most plausible theory is the conjecture of Fabia Colonna, an Italian scientist of the seventeenth century. "Before people used wine," says he, "they probably drank sweet must, and preserved it, like oil, in jars or skins. But in a warm climate a saccharine fluid is apt to ferment, and some avaricious house-keeper may have drunk that *spoiled* stuff till she became fond of it, and thus learned to prefer wine to must." Not a compliment to human nature, but quite probable enough to be true. An animal would have preferred water to spoiled grape-juice, but even at a very early period of his development the Nature-despising *homo sapiens* may have learned to disregard the warnings of his instinct. The economical house-keeper probably thought it a shame that his (giving poor Eve the benefit of the doubt) servants should grumble about a slight difference in the taste of the must, and the servants had to submit, had to drink the "spoiled stuff" again and again, till habit more than neutralized their disgust, for they found that the sickness induced by the effects of the putrefaction-poison (alcohol) could be cured by a repetition of the dose. They began to hanker after fermented must, and, by drinking it in larger quantities, induced a delirium which they described as anything but unpleasant; and their master, after repeated experiments, probably arrived at the same conclusion, namely, that must could be improved by fermentation. The next year they gathered grapes for the deliberate purpose of manufacturing an intoxicating drink, and the fatal precedent was established. Nature exacted the just penalties: the votaries of the

poison-god were stricken with physical and mental nausea—weariness, headaches, fits of spleen and hypochondria—but still they found that all these symptoms could be temporarily relieved by a draught of fermented must; and the neighbors were astonished to learn that the servants of Goodman Noah had discovered a panacea for all earthly afflictions. They, too, then tried the recipe—with indifferent success at first, but the experience of the *habitués* encouraged them to persist, till the manufacture of *wine* became an extensive business.

The first traffickers in stimulants (like our lager-beer philanthropists) had a personal interest in disseminating the habit, but, whatever may have been the birth-land of the alcohol-vice, its first growth was probably slow, compared with the rate of increase after its exportation across the frontier. The history of tobacco, tea, coffee (and opium, I fear), has repeatedly illustrated the influence of *imitativeness* in promoting the introduction of foreign vices. The rarity and novelty of outlandish articles generally disposes the vulgar to value them as luxuries, especially while a high price precludes their general use. Foreign merchants and a few wealthy natives set the fashion, and soon the lower classes vie in emulating their betters, the young in aping their elders. In England, James I. tried his utmost to suppress the use of smoking-tobacco, but, after his young cavaliers had become addicted to the habit, no penalties could prevent the London apprentices from imitating them. "In large cities," says Dr. Schrodt, "one may see *gamins* under ten years grubbing in rubbish-

heaps for cigar-stumps, soon after leaning against a board-fence, groaning and shuddering as they pay the repeated penalty of Nature, but, all the same, resuming the experiment with the resignation of a martyr. The rich, the fashionable, do it; those whom they envy smoke: smoking, they conclude, must be something enviable."

Similar arguments, doubtless, aided the introduction of the alcohol-habit, and, after the vice had once taken root, its epidemic development followed as a matter of course. Every poison-vice is progressive, and, soon after the introduction of a new stimulant, the majority of individual consumers will find that the habit "grows upon them," as our language aptly expresses it. The direct effect of the poison, hereditary influences, etc., induce a growing depression of vital energy, which, in turn, leads to an increased demand for the means of stimulation. This want is met in a twofold way: 1. By a direct increase of the quantity or strength of an special stimulant; 2. By the progress from a milder to a more virulent poison of a different kind.

In Prussia, Scotland, Denmark (as well as in some of our Eastern States), actual drunkenness (i. e., intoxication followed by riotous conduct) has apparently decreased, while the revenue register shows an undoubted increase in the *per capita* consumption of alcoholic liquors. This does not prove that our toppers are growing less vicious, but that they are growing more practical; intermittent rioters have become "steady hard-drinkers." In the Calmuck *steppes*, whose barrenness has forced the inhabitants to pre-

serve the primitive habits of their ancestors, a little grain is cultivated here and there in the river-valleys, and during the winter migration the herders carry bags full of rye from camp to camp, and bake bread whenever they are short of meat or milk. But at the return of the harvest season they have both meat and bread, and utilize the surplus of last year's grain by brewing it into a sort of beer, and indulging in a grand carousal—i. e., they get beastly drunk, but only once a year. The Bacchanalia and Symposia of the ancient Greeks were monthly revels in honor of some favorite deity; and even during the middle ages many of the poor Scotch lairds brewed ale only when they expected a guest. To get "as drunk as a lord" was the highest ambition of poor Hodge, but an ambition which he could not often gratify, though he sometimes stinted himself in order to drink his fill—

"At ember-eves and holy ales."

By-and-by, however, wages improved, and ales became more frequent and more decidedly unholy, though perhaps less obstreperous, since continual practice enables our toppers to "carry their liquor" as discreetly as the Baron of Bardwardine. The most respectable hotel in Geneva, Switzerland, allows its male employés a daily *pour boire* of six quarts of wine; Dr. Buchanan, of Manchester, speaks of English mechanics of the "better class" who take a glass of gin with every meal; and I am sure of understanding the truth if I say that in the larger cities of Germany and North America every popular beer-shop has among its customers dozens of "regulars" who drink

the year round a daily *minimum* of two gallons of lager-beer. The poison-mania which attacked our ancestors in the form of an intermittent passion has grown into an insatiable hunger ; the tempting serpent has become a strangling hydra.

And the heads of that hydra have multiplied. The ancient Greeks knew only one stimulant—wine ; the Northmen beer, the American Indians tobacco. We have adopted all three, besides tea from China, opium from India, coffee from Arabia, and fire-water from the laboratory of the German chemists. To this list the modern French have added chloral and absinthe. Yet this multiformity of the poison-habit is nothing but a normal symptom of its growth ; whenever the quantitative increase of a stimulant-dose has reached its physical limits, the exhausted system craves a new tonic ; the beer-drinker rallies his nerves with strong coffee, tobacco, or hot spices (pepper-sauce, "herring-salad," etc.), the brandy-drinker with chloral or opium, the opium-eater with arsenic. "It is alcohol that has led me to opium," says Charles Nisard ; "at first I used laudanum only as an antidote."

Antidote means counter-poison. Supplementary poison would have been the right word ; foreign poison-habits have supplemented rather than superseded our old stimulant-vices. The brewers' argument, that the use of lager-beer would prevent the introduction of opium, is, therefore, a bottomless sophism : no stimulant has ever prevented the dissemination of other and stronger poisons. The alcohol-habit has sometimes been supplanted by a passion for opium, chloral, or arsenic, but it cannot be

exorcised with a weaker stimulant. Beelzebub does not yield to a hobgoblin. Yet nothing is more common in temperance-hospitals than to comfort a converted drunkard with strong black coffee or stimulating drugs, in the hope that the milder tonic might operate as a sort of antidote and neutralize the after-effects of the stronger poison. That idea is an unfortunate delusion. The *succedaneum* may bring a temporary relief, but it cannot assuage the thirst for a stronger tonic, and only serves to perpetuate the stimulant-diathesis—it prepares the way for the return of Beelzebub with a legion of accomplices. On the total-abstinence plan the struggle with the fiend is sharper, but decisive. If, by the help of a strong physical (or moral) constitution, the drunkard can suppress his appetite for a year, he may manage to keep it afterward in a dormant condition; but only with extreme precaution, for a mere spark is apt to rekindle the flame.

“It should ever be borne in mind,” says Dr. Sewell, “that such is the sensibility of the stomach of the reformed drunkard, that a repetition of the use of alcohol, in the slightest degree and in any form, under any circumstances, revives the appetite; the blood-vessels of the stomach again become dilated, and the morbid sensibility of the organ is reproduced.”

A young priest from one of the West India Islands once consulted Dr. Rush for an affection of the lungs, and was advised to try the use of garlics. “I am satisfied that your prescription is doing me good,” said he at the next interview, “but I wish you would

let me steep it in some good old Geneva." "No, indeed, sir!" said the doctor, with emphasis; "no man shall look me in the face, on the day of judgment, and tell the Almighty that Dr. Rush made him a drunkard!"

I do not intend to deny that the use of mild alcoholic tonics, as a substitute for frightful remedies of the mediæval Sangrados, is a decided improvement, but, still, it is only a lesser evil, a first step of a progressive reform. Alcohol lingers in hospitals as slavery lingers in the West Indies, as the withcraft delusion lingers in Southern Europe. Has alcohol any remedial value whatever? Let us consider the matter from a purely empirical stand-point. Does alcohol protect from malarial fevers? It is a well-known fact that the human organism cannot support two diseases at the same time. Rheumatism can be temporarily relieved by producing an artificial inflammation; a headache yields to a severe toothache. For the same reason the *alcohol-fever* affords a temporary protection from other febrile symptoms—i. e., a man might fortify his system against chills and ague by keeping himself constantly under stimulating influence of alcohol. But sooner or later stimulation is followed by depression, and during that reaction the other fever gets a chance, and rarely misses it. The history of epidemics proves that pyretic diseases are from *eight* to *twelve* times more destructive among dram-drinkers than among the temperate classes; rich or poor, young or old, abstainers are only *centesimated* by diseases that dicimate drunkards. On no other point

is the testimony of physicians of all schools, all times and all countries, more consistent and unanimous.

Is alcohol a peptic stimulant? No more than Glauber's-salt or castor-oil. The system hastens to rid itself of the noxious substance, the bowels are thrown into a state of morbid activity. The effect of every laxative is followed by a stringent reaction, and the habitual use of peptic stimulants leads to a chronic constipation which yields only to purgatives of the most virulent kind.

Does alcohol impart strength? Does it benefit the exhausted system? If a worn-out horse drops on the highway, we can rouse it by sticking a knife into its ribs, but, after staggering ahead for a couple of minutes, it will drop again, and the second *deliquium* will be worse than the first by just as much as the brutal stimulus has still further exhausted the little remaining strength. In the same way precisely alcohol rallies the exhausted energies of the human body. The prostrate vitality rises against the foe, and labors with restless energy till the poison is expelled. Then comes the reaction, and, before the patient can recover, his organism has to do double work. Nature has to overcome both the original cause of the disease and the effect of the stimulant.

Alcohol has no remedial value. But that would be a trifle, if it were not for the positive mischief which the wretched poison is liable, and very liable, to cause. Four repetitions of the stimulant-dose may inoculate a child with the germs of the alcohol-diathe-
sis and initiate a habit which years of anguish and despair will fail to cure. By a single glass of medicated

brandy thousands of convalescing toppers have lost their hard-earned chance of recovery; poor, struggling wretches, swimming for their lives, and, at last, approaching a saving shore, have been pushed back into the surging whirlpool, and perished almost in sight of the harbor! The only chance of curing the poison-habit consists in the hope of guarding its victims against all stimulants; and I would as soon snatch bread from a starving man as that last hope from a drunkard.

Abstinence is easier, as well as safer, than temperance. "In freeing themselves from the bonds of an unworthy attachment," says Madame de Sévigné, "men have one great advantage—they can travel." If young Lochinvar's suit had been hopeless, the furtive interview with his lost love might have soothed his sorrow for a moment, but for his ultimate peace of mind it would have been better to stay in the west. The anchorites of old knew well why they preferred the wilderness to the humblest village; they found it easier to avoid *all* temptations. Vices as well as virtues, are co-operative.

In the cure of the alcohol-habit, the total renunciation of all stimulants is therefore, the first and most essential measure. A change of diet, a change of climate, of employment, and general habits, will help to shorten the distressing reaction that must precede the re-establishment of perfect health. The force of example may partly supply a deficiency in moral principles, ambition may strengthen their influence. But the effect of any secondary stimulant is more than enough to counteract such tendencies.

With the following precautions the total-abstinence plan will prove to have the further advantage of progressive effectiveness; for, after the removal of the irritating cause has in some degree allayed the morbid sensitiveness of the digestive organs, the abnormal appetite will gradually disappear, like the secondary symptoms of the disease, and thus lessen the influence of the subjective temptation.

CHAPTER VI.

THE ALCOHOL HABIT—CONTINUED.

But, in tracing the causes which led to the present development of the poison-vice, we should not overlook the working of another principle which I must call a reaction against the effort of a wrong remedy. We cannot serve our cause by ignoring its weak points, for if we persist in closing our eyes to the significance of our mistakes, our enemies will not fail to profit by our blindness. We cannot work in the dark. In order to reach our goal, we must see our way clear ; and I trust that no earnest fellow-laborer will misconstrue my motive if I dare to say the whole truth.

The matter is this : At a time when the civilization of antiquity had become extremely corrupt, a society of ethical reformers tried to find the panacea for vice, as we now seek the remedy for intemperance. But, instead of recognizing the local causes of the evil, they ascribed it to the general perversity of the human heart. They, too, failed to distinguish between

natural appetites and morbid appetencies, and, misled by the glaring consequences of perverted passions, they conceived the unhappy idea that man's natural instincts are his natural enemies. In order to crush a few baneful nightshades and poppy-blossoms, they began a war of extermination against the flowers of this earth. But that attempt led to an unexpected result: the soil of the trampled fields engendered weeds that were far harder to destroy than the noxious herbs of the old flower-garden. The would-be reformers had overlooked the fact that it is easier to pervert than to suppress a natural instinct; but the history of the last twelve hundred years has illustrated that truth by many dreadful examples. The suppression of rational freedom led to anarchy. Celibacy became the mother of the ugliest vices. The attempt to suppress the pursuit of natural science led to the pursuit of pseudo-science—astrology, necromancy, and all sorts of dire chimeras. The suppression of harmless pleasures has always fostered the *penchant* for vicious pleasures. The austerity of the Stoics helped to propagate the doctrines of Epicurus; in Islam the era of the Hambalite ascetics was followed by the riots of the Bagdad caliphate; and the open licentiousness of the English anti-Puritans, as well as the secret excesses of their northern neighbors, can be distinctly traced to the mistaken zeal of the party which had waged a long and unrelenting war against every form of physical pleasure, and hoped to find salvation in the suppression of all natural desires. That doctrine has never become the permanent faith of any Aryan nation, though now and then it has

reached a local ascendancy which made it a grievous addition to the evils it proposed to cure. More than fifteen hundred years ago the Emperor Julian, and even St. Clemens Alexandrinus, denounced the absurdities of the Marcionite Gnostics, who "abstained from marriage, the pursuit of worldly advantages, and all temporal pleasures" The original rigor of those dogmas could not maintain itself against the healthier instincts of mankind ; but what they lost in consistency they made up in aggressiveness : an influential sect of the last century attempted to enforce upon others what the Marcionities practiced in private, and, while the Syrian ascetics preferred the desert to the world, the Scotch ascetics tried to turn the world into a desert.

"According to that code," says the author of the "History of Civilization," "all the natural affections, all social pleasures, all amusements, and all the joyous instincts of the human heart, were sinful. They looked on all comforts as wicked in themselves, merely because they were comforts. The great object in life was to be in a state of constant affliction ; . . . whatever pleased the senses was to be suspected. It mattered not what a man liked ; the mere fact of his liking it made it sinful. Whatever was natural was wrong. It was wrong to take pleasure in beautiful scenery, for a pious man had no concern with such matters. On Sunday it was sinful to walk in the fields or in meadows, or enjoy fair weather by sitting at the door of your own house."

"Whatever was natural was wrong"—though even the extremists of that school might have shrunk from

the consistency of their Syrian exemplar, who forbade his anchorites to sleep twice under the same tree, lest their spiritual interests should be imperilled by an undue affection for any earthly object!

If it were possible that such dogmas could ever again overpower the common sense of mankind, we should welcome the poison-mania as the lesser evil, for it is better to seek happiness by a wrong road than to abandon the search altogether. It is better to taste a forbidden fruit than to destroy all pleasant trees. But it is impossible that such chimeras should have survived their native night. After the terrible experience of the middle ages, it is impossible that any sane person should fail to recognize the significance of the mistake, and we cannot hope to maintain the field against the opponents of temperance till we have deprived them of their most effective weapon: we must furnish practical proofs that they, not we, are the enemies of human happiness; that we make war upon vice, and not upon harmless pleasures.

It is a significant fact that in every civilized country of this earth drunkenness is rarest among the classes who have other and better convivial resources. In the United States, where the "almighty dollar" confers unlimited privileges, the well-to-do people are the most temperate in the world, the poor the most intemperate. In Turkey, where the lower classes are indulged in many pastimes which are considered below the dignity of an *effendi*, the poison-vice is actually confined to the upper ten: temperance reigns in the cottage, while opium-smoking and secret dram-drinking prevail in the palace. In Scotland, where

all classes have to conform to the moral by-laws which discountenance holiday recreations, total abstinence is extremely rare. For—"Nature will have her revenge, and, when the most ordinary and harmless recreations are forbidden as sinful, is apt to seek compensation in indulgences which no moralist would be willing to condone. The charge brought against the Novatians in the early ages of the Church can, with equal plausibility, be brought against the Puritans in our own day. One vice, at all events, which Christians of every school, as well as non-Christian moralists, are agreed in condemning, is reputed to be a special opprobrium of Scotland; and the strictest observance of all those minute and oppressive Sabbatarian regulations to which we referred just now has been found compatible with consecrating the day of rest to a quiet but unlimited assimilation of the liquid which inebriates but does not cheer. And under the old *régime* to be drunk in private, though of course not sanctioned as allowable, would have been accounted a far less heinous outrage on the dignity of the Sabbath than to whistle in the public street."—(The "Saturday Review," July 19, 1879, p. 75.)

There is, indeed, no doubt that the "snuffing, whining saints, who groaned in spirit at the sight of Jack in the Green,"* have driven as many pleasure-seekers from the play-ground to the pot-house as despotism has turned freemen into outlaws and robbers. For the practical alternative is not between conven-

* Macaulay's "History," vol. 1, p. 371.

ticles and rum-riots, but between healthful and baneful pastimes. Before we can begin to eradicate the poison-habit we must make reform more attractive than vice ; and, as long as the champions of temperance shut their eyes to the significance of that truth, their legislative enactments will always remain dead-letter laws. Our worst defects we owe, in fact, less to the shrewdness of our beer-brewing opponents than to the blindness of our Sabbatarian allies. A free Sunday-garden, with zoölogical curiosities, foot-races, and good music, would do more to promote the cause of temperance than a whole army of Hudibras revivalists.*

Individuals, too, should be treated on that plan, and, next to absolute abstinence from stimulating poisons, the most essential condition of a permanent cure is a liberal allowance of healthful stimulants, in the

* "Every one who considers the world as it really exists, and not as it appears in the writings of ascetics and sentimentalists, must have convinced himself that, in great towns, where multitudes of men of all classes and all characters are massed together, and where there are innumerable strangers, separated from all domestic ties and occupations, public amusements of an exciting order are absolutely necessary, and that, while they are often the vehicle and the occasion of evil, to suppress them, as was done by the Puritans of the Commonwealth, is simply to plunge an immense portion of the population into the lowest depths of vice."—(Decky, "History of Rationalism," vol. ii, p. 286 (*cf. ibid.*, vol. ii, p. 350.)

"Sir," said Johnson, "I am a great friend to public amusements, for they keep people from vice."—"Boswell," p. 171.)

"Insani fugiunt mundum, immundumque sequuntur."—Gloriano Bruno (Moriz Carrière, "Weltanschauung," p. 396).

form of diverting pastimes and out-door exercise. For the chief danger of a relapse is not the attractiveness of intoxication, but the misery of the after-effect, the depressing reaction that follows upon the abnormal excitement, and for several weeks seems daily to gain strength against the reformatory resolves of the penitent. This apathy of the unstimulated system can become more intolerable than positive pain, and embitter existence till, in spite of prayers and pledges, its victims either relapsed into alcohol or resort to cognate stimulants—chloral, absinthe, or opium. In stress of such temptations the prophylactic influence of a mind-stimulating occupation is almost as effective as is the *deliquium* of disappointed love. *Ennui* is the chief coadjutor of the poison-fiend. On the *Militaar-Grenze*, the "Military Frontier" of Eastern Austria, a soldier's life is a ceaseless guerrilla-war against smugglers, outlaws, and Bulgarian bed-bugs; yet hundreds of German officers solicit transfer to that region as to a refuge from the the temptations of garrison tedium, deliberately choosing a concentration of all discomforts, as a *Schnapps-Kur*, a whiskey-cure, as they express it with frank directness; and for similar purposes many of Fremont's contemporaries took the prairie-trail to the adventure-land of the far West. Frederick Gerstaecker found that the California rum-shops got their chief patronage from unsuccessful miners; the successful ones had better stimulants.

For the first month or two the convalescent should not content himself with negative safeguards, but make up his mind that temptations will come, and

come in the most grievous form, and that active warfare is nearly always the safest plan. The alcohol-habit is a physical disease, and a Rocky Mountain excursion, a visit to the diggings, a month of sea-side rambles and surf-baths, will do more to help a convert across the slough of despond than a season-ticket to the lecture-halls.

But such excursions should be undertaken in company. Soldiers in the ranks will endure hardships that would melt the valor of any solitary hero; and in the presence of manly companions the spirit of emulation and "approbativeness" will sustain even an enervated fellow. The *esprit de corps* of a temperance society is more cogent than its vows.

An appeal to the passions is the next best thing. Everything is fair in the war against alcohol: love, ambition, pride, and even acquisitiveness, may be utilized to divert the mind from a more baneful propensity—for a time, at least. For, after the tempter has been kept at bay for a couple of months, its power will reach a turning-point; the nervous irritability will subside, the outraged digestive organs resume their normal functions, and the potency of the *poison-hunger* will decrease from day to day. After that the main point is to gain time, and give Nature a fair chance to complete the work of redemption. As the *vis vitæ* recovers her functional vigor the employment of other tonics can be gradually dispensed with, except in the moments of unusual dejection that will now and then recur—especially on rainy days and after sultry nights. But in most such cases the demon can be exorcised with the price of an opera-ticket,

and not rarely with a *liberal dinner*. "Good cheer" is a suggestive term; the mess, as well as music, has power to soothe the savage soul, and, before invoking the aid of medicinal tonics, Bibulus should try the dulcifying effect of digestible sweetmeats.

But, on the other hand, when luck and high sprits give a sufficient guarantee against present temptation, no opportunity should be missed to forego a meal. *Fasting* is a great system-renovator. Ten fast-days a year will purify the blood and eradicate the *poison-diathe-sis* more effectually than a hundred bottles of expurgative bitters.

And only then, after the paroxysmal phase of the baneful passion has been fairly mastered, moral suasion gets a chance to promote the work of reform. For, while the delirium or the crazing after-effects of the alcohol-fever distract the patient, exhortations are as powerless as they would be against chronic dysentery. Dr. Isaac Jennings illustrates the power of the poison-habit by the following examples: A clergyman of his acquaintance attempted to dissuade a young man of great promise from habits of intemperance. "Hear me first a few words," said the young man, "and then you may proceed. I am sensible that an indulgence in this habit will lead to loss of property, the loss of reputation and domestic happiness, to premature death, and to the irretrievable loss of my immortal soul; and now with all this conviction resting firmly on my mind and flashing over my conscience like lightning, if I still continue to drink, do you suppose anything you can say will deter me from the practice?"

Dr. Mussey, in an address before a medical society, mentioned a case that sets this subject in even a stronger light. A tippler was put into an almshouse in a populous town in Massachusetts. Within a few days he had devised various expedients to procure rum, but failed. At length he hit upon one that proved successful. He went into the wood-shed of the establishment, placed one hand upon a block, and with an ax in the other, struck it off at a single blow. With the stump raised and streaming, he ran into the house, crying, "Get some rum—get some rum! my hand is off!" In the confusion and bustle of the occasion somebody did bring a bowl of rum, into which he plunged his bleeding arm, then raising the bowl to his mouth, drank freely, and exultingly exclaimed, "Now I am satisfied!"

More than the hunger after bread, more than the frenzy of love or hatred, the poison-hunger overpowers every other instinct, even the fear of death. In Mexico, my colleague, Surgeon Kellerman, of the Second Zouaves, was one night awakened by the growling of his spaniel, and thought he saw something like the form of a man crawling out of his tent. The next day the captain informed the company that some fellow had entered the hospital-camp with buglarious intent, and that he had instructed the sentries to arrest or shoot all nocturnal trespassers. About a week after, the doctor was again awakened by his dog, and lighting a match, he distinguished the figure of a large man crawling from under his table and carrying in his hand a box or a big book. He called upon him to stop, cocking his pistol at the same time, but the

fellow made a rush for the door, and in the next moment was floored by a ball that penetrated his skull two inches above the neck. He lived long enough to confess the motive of his desperate enterprise. His regiment had been stationed in Northern Algiers, where he learned to smoke opium, and having exhausted his supply, and his financial resources, as well as the patience of the hospital steward, who had at various times furnished him with small doses of the drug, he felt that life was no longer worth living, and resolved to risk it in the attempt at abducting the doctor's medicine chest. What can exhortation avail against a passion of that sort? We should learn to treat it as the advanced stage of a physical disorder, rather than as a controvertible moral aberration.

And, even after the delirium of that disease has subsided, homilies should be preceded by an appeal to reason. Ignorance is a chief cause of intemperance. The seductions of vice would not mislead so many of our young men if they could realize the significance of their mistake. All the efforts of the Temperance party have thus far failed to eradicate the popular fallacy that there is some good in alcohol; that somehow or other the magic of a stimulating drug could procure its votaries an advantage not attainable by normal means. Nor is this delusion confined to the besotted victims of the poison-vice. Even among the enlightened classes of our population, nay, among the champions of temperance, there is still a lingering belief that, with due precaution against excess, adulteration, etc., a dram-drinker might "get ahead" of

Nature, and, as it were, *trick* her out of some extra enjoyment.

There is no hope of a radical reform till an influential majority of all intelligent people have realized the fact that this *trick* is in every instance a *losing game*, entailing penalties which far outweigh the pleasures that the novice may mistake for gratuitous enjoyments, and by which the old *habitué* can gain only a temporary and qualified restoration of the happiness which his stimulant has first deprived him of. For the depression of the vital energy increases with every repetition of the stimulation process, and in a year after the first dose all the "grateful exhilarating tonics" of our professional poison venders cannot restore the vigor, the courage, and the cheerfulness which the mere consciousness of perfect health imparts to the total abstainer.

A great plurality of all beginners underrate the difficulty of controlling the cravings of a morbid appetite. They remember that their natural inclinations at first opposed, rather than encouraged, the indulgence; they feel that at the present stage of its development they could abjure the passion and keep their promise without any difficulty. But they overlook the fact that the moral power of resistance decreases with each repetition of the dose, and that the time will come when only the practical impossibility of procuring their wonted tippie will enable them to keep their pledge of total abstinence. It is true that by the exercise of a constant self-restraint a person of great will-force may resist the progressive tendency of the poison-habit and confine himself for years to

a single cigar or a single bottle of wine per day. But, if all waste is sinful, is not this constant pull against the stream a wicked misuse of moral energy—a wanton waste of an effort which in less treacherous waters would insure the happiest progress, and propel the boat of life to any desired goal?

But, while temperance people, as a class, are apt to underrate the difficulty of a total cure of a confirmed poison-habit, they generally overrate the difficulty of total prevention. The natural inclination of a young child is in the direction of absolute abstinence from all noxious stimulants. I do not speak only of the children of temperate people who strengthen that inclination by moral precepts, but of drunkards' boys, of the misbegotten cadets of our tenement barracks and slum-alleys. All who will make their disposition a special study may repeat the experiments which have convinced me that the supposed effects of hereditary propensities are in almost every case due to the seductions of a bad example, and that the influence of an innate predisposition has been immoderately exaggerated. Watch the young picnickers of an orphan-festival, and see what a great majority of them will prefer sweet cold milk to iced tea, and the lemonade-pail to the ginger-beer basket. Offer them a glass of liquor and see how few out of the hundred will be able to sip it without a shudder. Or let us go a step further and interview the inmates of a house of correction, or of a Catholic "protectory" for young vagrants. The superintendent of a penitentiary for adults (in Cologne, Germany,) expressed a conviction that a plurality of his prisoners would stretch out

their hands for a bottle of the vilest liquor rather than for a piece of gold. In the house of correction I would stake any odds that ninety per cent. of all boy-prisoners under fourteen would prefer an excursion-ticket to a bottle of the best wine of Tokay or Johannisberg. At home, in a preparatory school of all vices, they of course imitate their teachers, but only by overcoming almost the same instinctive repugnance which is the best safeguard of the total abstainer's child. At the *first* attempt even the offspring of a long lineage of drunkards abhors the taste of alcohol as certainly as the child of the most inveterate smoker detests the smell of tobacco.

But it is true that the impaired vitality of the habitual drunkard transmits itself mentally in the form of a peculiar disposition which I have found to be equally characteristic of the children (and even grandchildren) of an opium-eater. They lack that spontaneous gayety which constitutes the almost misfortune-proof happiness of normal children, and, without being positively peevish or melancholy, their spirits seem to be clouded by an apathy which yields only to strong external excitants. But outdoor work and healthy food rarely fail to restore the tone of the mind, and even before the age of puberty the manifestations of a more buoyant temper will prove that the patient has outgrown the hereditary hebetude, and with it the need of artificial stimulation. Temptation, of course, should always be guarded against, and also everything that could tend to aggravate the lingering despondency of the con-

valescent—harsh treatment, solitude, and a monotonous occupation.

With normal children such precautions are superfluous. They will resist temptation if we do not force it upon them. No need of threats and tearful exhortations; you need not warn a boy to abstain from disgusting poisons—Nature attends to that; but simply provide him with a sufficient quantity of palatable, non-stimulating food, till he reaches the age when habit becomes as second nature. It was Rousseau's opinion that a taste for stimulants could be acquired only during the years of immaturity, and that there would be little danger after the twentieth year, if in the meanwhile observation and confirmed habits had strengthened the protective instincts which Nature has erected as a bulwark between innocence and vice. We need not fortify that bulwark by artificial props, we need not guard it with anxious care; all we have to do is to save ourselves the extraordinary trouble of breaking it down. After a boy becomes capable of inductive reasoning, it can, of course, do no harm to call his attention to the evils of intemperance, and give him an opportunity to observe the successive stages of the alcohol-habit, the gradual progress from beer to brandy, from a "state of diminished steadiness" to *delirium tremens*. In large cities, where the the evils of drunkenness reveal themselves in all their naked ugliness, children can easily be taught to regard the poison-vice as a sort of disease which should be guarded against, like small-pox or leprosy.

But it should always be kept in mind that even the

milder stimulant-habits have a progressive tendency, and that under certain circumstances the attempt to resist that bias will overtask the strength of most individuals. According to the allegory of the Grecian myth, the car of Bacchus was drawn by tigers; and it is a significant circumstance that war, famine and pestilence have so often been the forerunners of veritable alcohol-epidemics. The last Lancashire strike was accompanied by whisky riots; the starving Silesian weavers tried to drown their misery in *Schnapps*. In France almost every general decline of material prosperity has been followed by a sudden increase of intemperance, and after a prolonged war the vanquished party seems to be chiefly liable to that additional affliction. The explanation is that, after the stimulant-habit has once been initiated, every unusual depression of mental or physical vigor calls for an increased application of the wonted method of relief. Nations who have become addicted to the worship of a poison-god will use his temple as a place of refuge from every calamity; and children whose petty ailments have been palliated with narcotics, wine, and cordials, will afterward be tempted to drown their deeper sorrow in deeper draughts of the same nepenthe.

And even those who manage to suppress that temptation have to suppress the revivals of a hard-dying hydra, and will soon find that only abstinence from *all* poisons is easier than temperance.

CHAPTER VII.

ENTERIC DISORDERS.

About a century before the birth of the Emperor Augustus, the most popular physician in Rome was the Grecian philosopher Asclepiades. His system seems to have resembled that of our "movement-cure" doctors. Instead of being stuffed with drugs, his patients were invited to his *palæstra*, a sort of out-door gymnasium or hygienic garden, where they were doctored with gymnastics, wholesome comestibles, and, as some writers assert, with flattery—probably courteous attention to the jeremiads of crapulent senators. At all events, his method proved eminently successful, though we need not doubt that all respectable druggists retailed *canards* about his establishment. He had devised a special course of gymnastics for every disorder of the human organism, and repeatedly declared that he would utterly renounce the claim to the title of a physician if he should ever be sick for a single day. Medicines he rejected on the

ground that *they accomplish by violent means what the palestra-method would effect in an easier way.*

Still, in certain cases, a short, sharp remedy might be preferable to an easy going one, but unfortunately there is a more serious objection to use of drugs, viz.. the danger of complicating instead of curing the disease. For—1. The diagnosis may fail to establish the true cause of the disorder. No watch-maker would undertake to explain the irregularities of a timepiece by merely listening to a description of the symptoms, and before he can trace the effect to its cause he must minutely inspect the interior mechanism. But a physican is not only generally obliged to content himself with the evidence of the external symptoms, but has to deal with an apparatus so infinitely more complex than the most intricate chronometer, that, even under normal circumstances, the process of its plainest functions has never been fully explained.*

2. We risk to mistake the suppression of the symptoms for the suppression of the disease. We would try in vain to subdue a conflagration by demolishing the fire-bells, but on exactly the same principle the mediæval drug-mongers attempted to restore the

*“Every organic process is a miracle, that is, in every essential sense an unexplained phenomenon.”—LORENZ OKEN.

“He obstinately refused to take medicine. “Doctor,” said he, “no physicking. Do not counteract the living principle. Let it alone; leave it the liberty of defending itself; it will do better that your drugs. The watch-maker cannot open it, and must in handling it, grope his way blindfold and at random. For once that he assists and relieves, by dint of torturing it with crooked instruments, he injures it ten times, and at last destroys it.”—(Scott’s “Life of Napoleon,” p. 368.)

health of their patients by attacking the outward symptoms of the disorder. Habitual overeating produced a sick-headache ; they applied a blister to the head. Impure blood covered the neck with ulcers ; they applied a salve to the neck. The alcohol vice resulted in a rheumatic affection of the knee-joint ; they covered the knee-pan with leeches. They suppressed the alarm-signals of the disease, but, before the patient could really recover, his constitution had to overcome both the malady and the medicine.

3. We risk to confound an appeal for rest with an appeal for active interference, and thus to turn a transient and necessary suspension of an organic function into an actual disease. Numerous *enteric disorders*, or bowel-complaints are thus artificially developed. The marvelous self-regulating principle of the human organism now and then limits the activity of special organic functions, in order to defray an unusual expenditure of vital energy. The after-dinner lassitude can thus be explained : the process of digestion engrosses the energies of the system. Mental labor retards digestion ; a strenuous muscular effort often suspends it entirely for hours together. Fevers, wounds, etc., have an astringent tendency, the potential resources of the organism are engaged in a process of reconstruction. Perspiration is Nature's effort to counteract the influence of an excessive degree of heat, and when the effect of sun-heat is aggravated by calorific food and superfluous clothing, the work of reducing the temperature of the blood almost monopolizes the energies of the system, while at the same

time the diminished demand for animal caloric lessens the influence of a chief stimulus of organic activity. Warm weather, therefore, indisposes to active exercise, and produces a (temporary) tendency to costiveness. That tendency is neither abnormal nor morbid, and to counteract it by dint of drastic drugs means to create, instead of curing, a disease. If a foot-messenger stops at the wayside to tie his shoe-strings, the time thus employed is not wasted. The sudden application of a horsewhip would force him to take as suddenly to his heels, but during his flight he might lose his way, and perhaps his shoes.

With a few exceptions, which we shall presently notice, *chronic constipation* results from the abuse of aperient medicines. A spell of dry, warm weather, sedentary work in an overheated room, a change from summer to winter diet—perhaps a mere temporary abstinence from a wonted dish of aperient food—has diminished the stools of an otherwise healthy child. The simultaneous want of appetite yields to a short fast, but the stringency of the bowels continues, and on the third day the parents administer a laxative. That for the next twenty-fours the patient feels considerably worse than before does not shake their faith in the value of the drug; the main purpose has been attained—the “bowels move.” Properly speaking, that movement is an abnormal convulsion, a reaction against the obtrusion of a drastic poison, which has “cured” the stringency of the bowels as a shower-bath of vitriol would cure the drowsiness of a tired man. An imaginary evil has yielded to a real evil, and, what is worse, becomes itself soon real enough

to confirm the opinion of the drug-worshippers that the patient must be "put under a course of corrective tonics." For very soon the unnatural irritation is followed by an abnormal lassitude, a digestive torpor, attended with symptoms of distress that plainly distinguish it from the original remissness of the bowels. In the eyes of the drug-dupes, however, it is nothing but a relapse of the former complaint, and must be combated with more effective remedies. "Treacle and brimstone, thrice a day," was the verdict of the mediæval Æsculap. "The timely use of our incomparable invigorant will regulate the action of the bowels and impart a generous and speedy impulse to the organic functions of the whole body," says the inventor of the new patent "liver-regulator"—a new combination of "valuable herbs" with the usual basis of alcohol. "A wineglassful every morning." The herbs prove their value by enabling the vender to accommodate his customers on Sunday morning, when common dram-shops are closed, and with an equal disregard of times and seasons the alcoholic principle opens the bowels. The incomparable stimulant admits no such excuses as fatigue or warm weather; the charm works; the regular attacks of a life-endangering poison have to be as regularly repelled. Other symptoms, such as troubled dreams, fretfulness, heartburn and irregular pulse, seem, indeed, to indicate the approach of a new disease, but that will be met by other drugs, and in the meanwhile the liver-cure is continued. After the lapse of a few months the patient gets possibly a chance to escape his doom; out-door exercise, the excitement of a pleasant jour-

ney, a new residence, a change of diet, encourage the hope that the bowels may be left to their own resources, and the "tonic" is provisionally discontinued. An exceptionally strong constitution may really be able to overcome the after-effects of the drug-disease (for from beginning to end it has been nothing but that), but in a great plurality of cases the event proves that the stimulant has fastened upon the system: constipation, in an aggravated form, returns, and can now be relieved only by the wonted means—"a fact," as the orthodox drug-doctor would not fail to observe, "which should convince idealists that now and then Nature can really not dispense with a little assistance."*

That assistance has made the fortune of numerous nostrum-mongers, and helped our made-dishes to wreck the health of many millions. For, without the interference of a positive poison, dietetic abuses have to be carried to a monstrous excess before they will result in chronic constipation. A slight stringency of the bowels is often simply a transient lassitude of the system, and may be safely left to the remedial re-

* Two generations ago the abuse of purgative drugs was carried to a degree which undoubtedly shortened the average longevity of many families. Thousands of parents made it a rule (which still has its advocates) to dose their children at the end of every month; and Wieland's practical philosopher not only prescribes a laxative for every fit of ill humor, but answers the sentimental tirades of his wife by sentencing her to a prompt enema:

"Brummt mein Engel wie ein Bär,
 'Lise,' sprech ich, 'musst purgiren,'
 Rufe dann den Bader her,
 Lasse sie recht durch-klystiren."

sources of Nature. After the third day, however, the disorder demands a change of regimen. A chief objection to our system of cookery is the hygienic tendency of the *essence-mania*, the concentration of nutritive elements. Ours is an age of extracts. We have moral extracts in the form of Bible-House pamphlets; language-extracts in the form of compendious grammars; exercise-extracts under the name of gymnastic curriculums; air-extracts in the shape of oxygen-bladders, and a vast deal of such food-concentrations as Liebig's soup, fruit-jellies, condensed milk, and flavoring extracts. But, somehow or other, the old plan seems after all, the best. In the homes of our forefathers morals were taught by example, and with very respectable results. Six years of grammar-drill in a dead language do not further a student as much as six months of conversation in a living tongue—the concrete beats the abstract. Boat-racing, wood-chopping, and mountain-climbing, are healthier, as well as more pleasant, than gymnastic crank-work; the diverting incidents of out-door sports which the movement-cure doctor tries to eliminate are the very things that give interest and life to exercise. And, for some reasons, (not easy to define without the help of such analogies), concentrated nourishment does not agree with the nature of the human organism. The lungs find it easier to derive their oxygen from woodland air than from a ready-made extract, and the stomach, on the whole, prefers to get its nourishment in the form for which its organism was originally adapted. *Want of bulk* makes our food so indigestible. In fruits and berries—probably the

staple diet of our instinct-taught ancestors the percentage of nutritive elements is rather small, but the residue should not be called worthless, since it serves to make the whole more digestible. A large ripe watermelon contains about three ounces of saccharine elements, which in that combination have a mildly aperient effect, while in the form of glucose-candy they would produce constipation, heart-burn, and flatulence. The coarsest bran-bread is the most digestible, and to the palate of an unprejudiced child also far more attractive than the smooth but chalky and insipid starch preparations called baker's bread. Graham-bread and milk, whortleberries, rice-pudding, and stewed prunes, once or twice a week, generally keep the bowels in tolerable order, provided that the general mode of life does not prevent the influence of the natural peptic stimulants. But even in a case of obstinate costiveness few people would resort to drugs after trying the effects of a *legumen-diet*. Beans do not agree with some persons (though the Pythagorean interdict has no hygienic significance), but one of the three legumens—*beans, peas, and lentils*—is pretty sure to suit every constitution, and as bowel-regulators their value can hardly be overrated. Taken like medicine at regular intervals of eight hours, and in doses of about a pint and a half, the third or fourth meal of pea-soup (boiled in soft water and flavored with butter and a pinch of chopped onions) will prove as effective as a moderate medicinal aperient; but, while the effect even of a mild cathartic is followed by an astringent reaction, the relief obtained by an aperient regimen is permanent, unless that effect is per-

sistently counteracted by the original cause of the disorder. Fruit, fresh or stewed, ripe grapes, or tamarind-jelly, and frequent draughts of pure cold water, will insure the efficacy of the remedy.

Besides an astringent diet, the chief predisposing causes of constipation are : *warm weather, overheated rooms, want of exercise, sedentary occupations tight garments*, the after-effects of *drastic drugs, of malarial fevers*, and sometimes of *self-abuse*. *Parturition* is frequently followed by a protracted period of close stools. In the most obstinate cases of constipation *clysters* are preferable to cathartics, for the reason that the former reach the special seat of the disease, viz., the lower part of the rectum, while the latter begin their work by convulsing the stomach, and, by irritating its sensitive membrane, disqualify it for the proper performance of its function. But injections, even of the simplest kind, should be used only as the last resort, after all the following remedies have proved ineffective :

Mastication.—Thoroughly masticate and insalivate each morsel of solid food. Eat slowly ; do not soak your bread, etc., to facilitate deglutition, but let the saliva perform that business. The stomach of bilious dyspeptics often rejects a stirabout of bread and milk, but accepts the ingredients in a separate form.

Passive Exercise.—Kneading the abdomen, or riding on horseback or in a jolting cart, often affords relief by dislodging the obdurate obstructions of the lower intestines.

Cold sponge-baths excite a peristaltic movement of the colon, and often induce a direct evacuation.

Air baths have an analogous effect, and in summer the bed should be removed to the airiest room in the house. After the stools have become more regular, exhausting fatigues (in warm weather especially) should be carefully avoided. The advent of winter greatly lessens the danger of a relapse. Frost is a peptic stimulant, and after October the cold ablutions can be gradually discontinued. Fresh air, an occasional sleigh-ride, or an excursion on a rumbling freight-train, will do the rest and the cure is complete if during the next warm season, the digestive organs perform their proper functions without the aid of artificial stimulants. The remedies for bilious constipation have been mentioned in the chapter on "Dyspepsia," but I will here repeat the chief rule for the cure of chronic indigestion: "Never eat till you have leisure to digest." Avoid after-dinner work; break through every rule of conventional customs, and postpone the principal meal to the end of the day, rather than let the marasmus of the digestive organs reach a degree that calls for a change of climate and occupation, as the only alternative of a total collapse. Open your bedroom-windows, take a liberal dose of fresh spring-water with the last meal, and an air-bath before going to bed, and the result will convince you that night is *not* an unpropitious time for digestion.

Unlike constipation, *diarrhœa*, even in its transient phases, is always a morbid symptom, and a proof that either the quality or the excessive quantity of the ingested food calls for abnormal means of evacuation. For the incipient stages of the disorder the great

specific is *fasting*. Denutrition, or the temporary deprivation of food, exercises an astringent influence, as part of its general conservative effect. The organism, stunted in the supply of its vital resources, soon begins to curtail its current expenditure. The movements of the respiratory process decrease; the temperature of the body sinks, the secretion of bile and uric acid is diminished, and before long the retrenchments of the assimilative process react on the functions of the intestinal organs; the colon contracts, and the smaller intestines retain all but the most irritating ingesta.*

When that remedy fails, the presumption is that either some virulent substance resists the eliminative efforts of Nature, or else that, in spite of the diminished sources of supply, the accumulated alimentary material still exceeds the needs of the organism. In the latter case, unless a continuation of the fast should seem preferable, the waste can be stopped by *active exercise*. After a hard day's work a man can assimilate a quantum of food that would afflict an idler with grievous crapulence. The Kamtchatka savage has earned the right to digest the flesh of the brute which he has slain in a rough-and-tumble combat. The stomach of the negro does not reject the fruit

* A persistent *hunger-cure* will eliminate even an active virus by a gradual molecular catalysis and displacement of the inorganic elements. The Arabs cure syphilis by quarantines *à la Tanner*; and Dr. C. E. Page mentions the case of a far-gone consumptive who starved the tubercles out of his system. Aneurisms (internal tumors) have been cured by similar means.

which he has plucked from the top branches of a tall forest-tree. Loose bowels become retentive if Epicurus has chopped his own wood and fetched his own cooking-water. But the best of all astringent exercises is a *pedestrian excursion*. A liberal supply of green fruit has a laxative tendency. A campaign in an orchard country costs the invaders a good deal of laudanum ; in midsummer some forty per cent. of the rank and file are generally on the sick-list with diarrhoea. But the first forced march stops such symptoms. Laxatives and pedestrianism are what lecturers on materia medica call "incompatibles." By a combination of foot-journeys and abstinence even a malignant case of chronic diarrhoea can soon be brought under control, though the debility of the patient should limit his first excursions to the precincts of his bedroom. Care should, however, be taken not to abuse the partially restored vigor of the digestive organs, especially during the period of deficient appetite that often follows a colliquative condition of the bowels. Progressive doses of out-door exercise will gradually overcome that apathy, and, when the stomach volunteers to announce the need of nourishment, it can be relied upon to find ways and means to utilize it.

But the problem of a complete cure becomes more complicated if the bowels have been tortured with astringent drugs. Diarrhoea itself is an asthenic condition, indicating a deficiency of vital strength, yet nearly every health-exhausting poison of the vegetable and mineral kingdom has been employed to paralyze the activity, and, as it were, silence the pro-

test of the rebellious organs. Bismuth, arsenic, calomel, opium, mercury, nux vomica, zinc salts, acetate of lead, and nitrate of silver, are among the gentle "aids to Nature" that have been employed to control the revolt of the mutinous bowels. An attempt to control a fit of vomiting by choking the neck of the patient would be an analogous mistake. The prescription operates as long as the vitality of the bowels is absolutely paralyzed by the virulence of the drug, but the first return of functional energy will be used to eject the poison. That new protest is silenced by the same argument; for awhile the exhaustion of the whole system is mistaken for a sign of submission, till a fresh revolt calls for a repetition of the coercive measures. In the meantime the organism suffers under a compound system of starvation; the humors are surcharged with virulent matter, the whole digestive apparatus withdraws its aid from the needs of the vital economy, and the flame of life feeds on the store of tissue; the patient wastes more rapidly than an un-poisoned person would on an air-and-water diet. In garrets, where the last piece of furniture had been sold to defray the costs of a direful nostrum, I have more than once seen victims of astringent poisons in a state of misery which human beings can reach by no other road: worn out, corpse-colored, emaciated wretches, with that look of listless despair which the eyes of a dying beast sometimes assume on the brink of Nirvana. The first condition of recovery is the peremptory abolition of the poison-outrage. For the first three days prescribe nothing but sweetened rice-water, and only tablespoonful doses

of that ; give the stomach a sorely-needed chance of rest. On the fourth and fifth day add a few drops of milk, and toward the end of the week inspissate the broth to the consistency of gruel. There are persons with whom milk disagree in all its forms ; for such prepare a surrogate of whipped eggs with sugar and warm water—a tablespoonful every half-hour. Do not hope that the stomach of a far-gone drug-martyr will at once tolerate even such feather-weight burdens ; it will not repel them with the spasmodic violence that characterized its reactions against a virulent nostrum, but it will often protest its disability to retain the whole quantum. A small but increasing percentage will be assimilated, and, if the corresponding enlargement of the rations is not overdone, the patient at the end of the third or fourth week, may be rewarded by the return of something like positive appetite, i. e., a craving for more solid food. Try a slice of rice-pudding and fruit jelly, or a homœopathic dose of blanc mange. Try a soft boiled egg or a baked apple. Eschew cordials. Avoid food-extracts, even strong beef-tea, which for a person in such circumstances is a stimulant rather than a nourishment. In the mean time watch the weather, and on the first clear day screen the lower windows, open the upper sashes, and treat the patient to a *sun-bath*. Sunlight, applied for half an hour to the bare skin, is a better tonic than cold water, which invigorates a healthy man, but exhausts an asthenic invalid. In the form of *tepid sponge-baths*, however, water should be applied as soon as the patient can bear the fatigue of keeping on his legs for a couple of minutes. The first decided

gain in strength employ in the preparatory exercise of *pedestrianism*. Carpet the room, clear a track for a circular walk, provide supports at proper intervals, a small table in one corner, a chair or a curtain-strap in the other. Interest the patient in his progressive achievements, keep a record-book, procure a boxful of chips and tally off each round. Three miles a day mark the time when the sanitarium can be transferred to the out door world. In a vineyard country devote the vintage season to a three weeks' *grape-cure*. The cure consists in dining on bucketsfuls of ripe grapes and transparent slices of wheat bread. Grape-breakfasts, grape-lunches, and grape-suppers, *ad libitum*, but no bread, nor anything else that could interfere with the system-renovating effect of the sweet abstersive, that has been tried with signal success in the treatment of bilious dyspepsia, gout, and cutaneous diseases.* Extreme caution in the use of animal food, acids, and fermented beverages, for the first six months at least, is as necessary as after an attack of *dysentery*, which should be similarly treated, except that a more rapid

* The grape cures of Thionville, Staremberg, Meran, Lintz, and the Bergstrasse, near Mannheim, are yearly visited by thousands. In the United States the best facilities might be found at Hammondsport, Flushing, and Iona Island, New York; Salem, Massachusetts; Hagerstown, Maryland; Lebanon, Columbia, and Eagleville, Pennsylvania; Golconda, Illinois; Hermann, Missouri; Cincinnati, Delaware, and Kelly's Island, Ohio. All Southern California is now studded with vineyards, and the *Trauben-kur* of Meran hardly excels the grapes of San Gabriel and Anaheim. Five cents a pound for the ripest bunches is the average price on Kelly's Island; in California from two to three cents a pound; in larger quantities perhaps even less.

recovery of strength will permit a speedier return to out-door and active exercise.

Colic can generally be traced to the presence of fermenting fluids, and is the penalty of excessive indulgence in such beverages as mush, new beer, fresh cider, together with sour milk and watery vegetables, but may in rarer cases indicate the agency of more dangerous substances, drastic mineral acids, putréfactive and zymotic poisons, noxious gasses, etc. Rest and warm bandages are the best remedies. The antidotes of *corrosive poisons* will be named in a separate chapter. The pains of *gastric spasms*, a consequence of dietetic sins, may be alleviated by manipulation and friction with a moist piece of flannel; in extreme cases, indicating the presence of virulent acids, by means of a stomach-pump. Generally a semi-horizontal position, reclining on the left side, with the upper part of the body slightly raised, together with local friction, will considerably ease the distressed organ, though intermittent griping pangs may continue till the alchemy of the physiological workshop has neutralized the irritating substance. From a kindred affection colic can be distinguished by a simple test: if pressure against the upper part of the groin increases the pain the complaint is an inflammation of the peritonæum, but otherwise due to the presence of acid fluids or expansive gases. *Painter's colic* may be recognized by the discoloration of the gums and lips, and can be cured only by the removal of the cause. A napkin, sprinkled with aromatic vinegar, and tied loosely across the nostrils will, however, lessen the effect of the noxious effluvia; and the Italians recommend the

internal use of olive-oil (cotton-seed oil would probably serve the same purpose) and wine. For a few days after a severe attack of colic, pure water should be the only drink.

Flatulence tends to obviate the proximate cause of intestinal cramps. As a concomittant of dyspepsia, it indicates the accumulation of undigested food and the necessity of greater abstemiousness. Burnt magnesia absorbs gastric acids, but at the same time impairs the functional vigor of the stomach too often to be, on the whole, a lesser evil. It is, however, one of the very few chemical remedies which act, temporarily, at least, by a direct removal of the proximate cause. Its permanent removal can be effected only by a change of regimen.

In the treatment of *hæmorrhoids*, too, we have to distinguish between palliatives and radical remedies. If the statistics of the complaint could be tabulated, I believe it would be found that its centers of distribution coincide with a prevalence of sedentary occupations, combined with the use of narcotic drinks, especially coffee. Monkeys have posterior callosities, and their habits prove that an occasional sitting posture is normal to the primates of the animal kingdom. But, in a state of nature at least, our arboreal relatives are too restless to avail themselves of their sitting facilities oftener than five or six times a day—for about a minute at a time. In menageries they become sedate enough for ten-minute sessions. But a German chancery-clerk has to sit fifteen hours a day, awaiting promotion and the supper hour, for he is often required to eat his dinner *in situ*. If his dinner-bas-

ket is sent from a cheap boarding-house, it is sure to contain a selection of highly astringent comestibles—tough beef, leathery potato-chips, all-spice, ginger-cakes and pickles. The accompanying flask contains coffee. If the man of sessions stoops, he damages his lungs; if he leans against the edge of the table, he may endanger his stomach; but, as sure as he sits, he compresses the region of the *vena portæ*. Obstructions of that vein are favored by two circumstances: it has to pass a double system of capillaries, and, before it can reach the liver, it has to pump its heavy blood upward. Sooner or later the incessant pressure results in varicose enlargements, actual obstruction occurs, the vein-bags become engorged and at last inflamed, and their rupture discharges the blood, which mingles with the secretions of the rectum, and causes that incessant pricking and burning that make hæmorrhoids (emerods, piles) as troublesome as a combination of itch and gout. An astringent diet aggravates the evil by inspissating the blood and retarding the process of circulation. The stricken Philistines obtained relief by sacrificing golden *fac-similes* of the afflicted parts, and cauterizations temporarily free the obstructed passages; but the days of miracles are past, and, as long as the cause continues to operate, it would not avail the patient to sacrifice his entire stock of emerods. Inunctions of warm tallow will palliate the itch. Common mutton tallow serves that purpose as well as any patent ointment, for itch and its cognate complaints are not amenable to the influence of the faith-cure. The radical remedies are gymnastics and an aperient diet.

The gymnastic specifics are the exercises that promote deep and full respiration, and at the same time react on the abdominal cavity, as spear-throwing, swinging by the arms, and dumb-bell practice. The diet should be digestible, and as fluid as possible; while exercise stimulates the circulation, the diluents will attenuate the blood, and thus obviate the proximate cause of the disorder. If the patient has to stick to his office, he should procure a combination-desk (which any carpenter can construct without infringement of patents), and stand and sit by turns.

The ancients kept slaves who had to work all day, sitting before a primitive grist-mill, and it is possible that hæmorrhoids are really a very antique complaint. But during the age of gymnastics and unfrequent meals it is not probable that people suffered much from maw-worms. Parasites are marvelous colonizers. Wherever the ground is prepared for their reception, the seed is sure to make its appearance. There are about sixty different kinds of mildew, a special variety for nearly every special kind of fruit or vegetable; and, if a decaying berry of the rarest sort is exposed to the open air, it will soon be covered with its specific kind of mold. A piece of putrid flesh will attract blow-flies, even where flies of that sort have never been seen before. The germs of numberless parasites fill the air, and each species, after its kind, will promptly fasten upon every sort of decaying or stagnant organic matter, even in the interior of the body. But in the living organism of the human system such stagnations are wholly abnormal. In the economy of the digestive organs peptic disin-

tegration should precede putrefactive decay; the chyle should never stagnate, the stream of the organic functions should move with an uninterrupted current. There are rivers that become so low in summer that pools of water can be found only in the deeper cavities of the river-bed, and such pools are sure to swarm with "wigglers," or incipient gnats. But, as soon as the current of the rising river drains those pools, the wigglers speedily vanish.

The maw-worm plague is caused and should be cured on the same principle. Most people eat too often. Before the stomach can dispose of the first meal, it receives a second consignment, and soon after a third, of comestibles elaborately contrived to retard digestion; afternoon work monopolizes the energies of the system; the *mélange* in the small intestines becomes unmanageable, stagnates, and at last ferments. Babies are gorged with milk till the contents of the little vessel literally spill at the muzzle; they are swaddled and bandaged, kept in horizontal confinement, and anxiously prevented from every motion that might ease the labor of the sorely overtaxed bowels. Fresh air, the next best peptic stimulant, is likewise carefully excluded. Nature fights the enemy for a week or two, but at last succumbs to odds: fermentation sets in; parasites fasten upon their well-prepared pabulum, and soon the tortures of the mummified little martyr are aggravated by the wriggling of hundreds of ascarides. Nervous children can thus be worried into epileptic fits, and even delirium and brain-fever. Locally, the worm plague produces constipation, hæmorrhages (often resem-

bling the symptoms of true hæmorrhoids), and burning stools.

If the evil has reached proportions that defy dietetic specifics, the removal of the cause (as in prurigo, scabies, and syphilis) requires the application of artificial remedies. Injections of warm water with an infusion of *quassia*, or *carbolic acid*, will expel pin-worm; *oil of chenopodium* (worm-seed) in minute doses, administered with a tea-spoonful of castor-oil, is an effective prescription for the expulsion of the "round-worm."

Among the remedies against *tæniæ*, or tape-worms, the following vegetable specifics are not less effective and much safer than the *calomel* preparations which were formerly prescribed for that purpose: Pomegranate-bark (*Granati fructus cortex*); male fern (*Filix mascula*); but especially *pounded pumpkin-seed*. Three ounces of the fresh seed, mixed with a pint of water and pounded into an emulsion, taken after a twenty-four hours' fast, rarely fail to evict the tenant within three hours.

But the germs of the parasites remain behind, and the same predisposing conditions may at any time effect their redevelopment. Dietetic remedies must complete the cure. Children should be restricted to three meals a day. Let them earn their recovery by exercise—running, tumbling, dangling at the end of a grapple-swing. Adults should limit themselves to a lunch and a good dinner, drink a liberal quantum of fresh, cold spring-water, but no fermented beverage, and strictly abstain from indigestible food, especially cheese, sour rye-bread, sauerkraut, archaic

sausages, pickles, and hard boiled eggs. Light bread, cream, and grapes (or baked apples), should constitute the staple of the diet. A two weeks' grape-cure can do harm. An occasional fast-day will insure the elimination of undigested food-deposits. Pin-worms that have escaped the day of wrath may now and then betray their presence, but they have ceased to multiply, and, after the current of the organic circulation has once been fairly re-established, intestinal parasites will disappear like the wrigglers of a drained river-pool.

CHAPTER VIII.

NERVOUS MALADIES.

Hygienic pathology, or the plan of curing the disorders of the human organism by the aid of the remedial agencies of Nature, is founded on the fact that disease is not only a wholly abnormal condition, but that within the years allotted to the individuals of our species, there is a strong healthward tendency in the constitution of the human system, which tendency does not fail to assert itself as soon as the predisposing cause of the disorder has been removed. In the treatment of consumption and scrofula, the principles of this theory have been generally recognized ; but I believe that their application to the nervous diseases (*asthenia*, neurosis, chlorosis, hysteria, nervous debility) is destined to effect a still greater reform in the present system of therapeutics.

The study of biology is largely a study of hereditary influences. In the form and structure, in all the peculiar life-habits of each organic being, we can trace the outcome of ancestral transmissions and as a gen-

eral rule, the persistence of such peculiarities corresponds to the length of time during which the influence of their causes was impressed upon the character of the species. The period of artificial civilization, even if considered as coeval with the era of recorded history, is but a moment compared with the ages during which man-like creatures, the ancestors of our domestic animals and the prototypes of our cultivated plants, existed in the warmer zones of our planet. After six thousand years of cultivation on parched hill-sides, the vine is still by preference a tree-shade plant. After many thousands generations of cats have been fed and petted in daytime and neglected after dark, puss is still a night-prowler. Barn-yard fowl have still a predilection for thorny jungles, and in the plains of Russia the descendants of the mountain-goat climb wood-piles and cottage-roofs. In the constitution of all organic beings there is a tendency to revert to the original life-habits of the species. Biologists have long recognized the significance of that law, but its hygienic importance has hardly begun to be understood. For it implies not less than this : That the vital functions of every living being are performed more easily and more vigorously under the conditions to which the constitution of its organism was originally adapted. A swamp-boia may subsist for years in a dry board cage ; eagles have been chained to a post for a quarter of a century, and lost the gloss of their feathers, their vigor, their courage, though not their lives. No drugs would cure the ailments of such captives ; but restore them to their native haunts, and see how fast they will re-

gain their native vigor! Their infirmities could not have been traced to any single cause, but were due to the combined influence of numerous unnatural conditions.

A similar combination of abnormal circumstances causes thousands of the perplexing complaints known as *nervous diseases*—nervous debility, languor, want of vital vigor. The introduction of narcotic drinks is no sufficient explanation for the present increase of such disorders. Prince Pückler-Maskau describes an iron-fisted Arab chieftain of Southern Tunis who, in his eightieth year, could manipulate a bow that would have nonplused the champions of our archery clubs, who undertook an expedition that kept him in the saddle for three days and two nights, and who could abstain from food for the same length of time, but always traveled with a skinful of moist coffee-paste, which he sucked and chewed like tobacco. West China mountaineers, able to contest the prize of any weight-lifting match or wrestling-bout, and of otherwise most abstemious habits, can not subsist without a daily dose of the national beverage. No sensible person would maintain that such people owe their vigor to their narcotic tipples; no pathologist would deny that it deprives them of part of their strength, but that its use alone could cause the premature decrepitude of millions of Indo-Germanic invalids would be an equally untenable assertion. It is merely an additional factor in the multitude of unnatural habits that make up the misery of our modern modes of life.

That our primogenitors passed their days among

trees is one of the few points on which Moses and Darwin agree ; whether four-handers or frugivorous two-handers, they certainly were forest-creatures, and breathed an air saturated with elements of which the atmosphere of our tenement barracks is more devoid than the briny breeze of the ocean. Our lungs suffer for it ; but not our lungs alone. Besides, being the best pulmonary pabulum, oxygen is a nerve-tonic ; a forester, a hunter, a Swiss shepherd-boy, in a state of tubercular consumption, would be less exceptional phenomena than in a state of nervous fretfulness. A constitutional kind of good-humor sweetens the hardships of the overtaxed peasantry of Southern Europe, as its absence certainly aggravates the misery of our factory-slaves. And it would be a mistake to suppose that only summer air can exercise this nerve-soothing influence. Let a chlorotic girl take a sleigh-ride on a cold, clear winter day, or through a snow-storm ; let her skate ; give her a chance to get an hour's out-door exercise even on drizzly or frosty days. The north wind may white-freeze her ear-tips, but it will restore the color of her cheeks, it will restore her appetite, her energy, and her buoyant spirits. Those whom necessity compels to limit their out-door rambles to the half-mile between home and shop, should let the night make up for the shortcomings of the day, and sleep—in dry weather, at least—in the draught of a wide-open window. Only a first experiment of that sort will necessitate the addition of a night-cap to one's bedclothing ; and even nervous ladies will resist the temptation to cover up their faces, if they find how soon

the wonted morning languor gives way to the influence of Nature's restorative. Those who dislike to risk the discomfort of initiation before ascertaining the value of the remedy can make another test-experiment: After a summer excursion, when fatigue and early rising enable anybody to sleep soundly in an open tent, the first few nights after returning home will be a favorable time for defying the night-air superstition and sleeping, perhaps with slight qualms of the old prejudice, but without the least bodily discomfort, on a balcony or in an open hall, with open windows on all sides. After a week, transfer the couch to the old air-tight bedroom, and note the result: All the next forenoon a queer feeling of discomfort, as after a prolonged exposure to the fumes of a smoky kitchen will illustrate the difference between natural and unnatural modes of life. To persons who have thus emancipated themselves from the delusions of the night-air dread, the atmosphere of a close bedroom is oppressive enough to spoil the night's rest and bring on a relapse of many of the distressing concomitants of nervous insomnia. A slight elevation of the window-sash will remedy the evil, and we might expatiate upon the correlation between the nerve-centers and the respiratory apparatus of the human body, but the plain ultimate reason is that the organism has been restored to an essential element of its original existence.

Jacob Engel has a story of a splenetic student who composed his own funeral dirge, with a lugubrious list of the sorrows from which he anticipated demise would liberate his soul. On discovering the lyric,

his father ordered him to excavate a gravel-bank for a family vault, as none of his relatives could be expected to survive his untimely fate. The prescription proved a success, and a few weeks later Heraclitus Junior was caught writing sonnets to the hired girl. Want of exercise is, indeed, a most fruitful cause of nervous maladies. Our Darwinian relatives, creatures so similar to us in the structure of every muscle, every joint and sinew of their bodies, are the most restless habitants of the woods. "It makes one dizzy to watch the evolutions of the long-armed gibbons," Victor Jacquemont writes from the Nerbudda; "the first one I saw made me think that he was suffering from an acute attack of St. Vitus's fits, but I have found out that it is a chronic disease. They keep moving while the sun is in sight." Savages alternate their wigwam holiday with periods of prodigious exertion, and an occasional mountain tour would atone for a good many days of city life, but hardly for weeks of sedentary occupation. Without at least one hour per day of out-door exercise, no native strength of constitution can resist the morbid influences of stagnant humors. Of the immortal soul's dependence upon the conditions of the body there are few stranger illustrations than the psychic influence of narcotic drugs. A mere indigestion can temporarily metamorphose the character of the patient, and all manner of symptoms ascribed to "heart-disease," aneurism, intestinal parasites, spinal or cerebral affections, are often simply due to depraved humors and their reaction on the nervous system. By increasing the action of the circulatory system, physical exercise

promotes the elimination of such humors, with their whole train of morbid consequences—chlorosis, tantrums, troubled dreams, and the nervous affections proper; restlessness and want of vital energy. What amounts of “tonic” nostrums—keeping their promise of restoring the vigor of the system by producing a fever-energy—would be thrown in the gutter, if the patient could be persuaded to try the recipe of Jacob Engel! “When I reflect on the immunity of hard-working people from the effects of wrong and over-feeding,” says Dr. Boerhaave, “I can not help thinking that most of our fashionable diseases might be cured mechanically instead of chemically, by climbing a bitterwood-tree, or chopping it down, if you like, rather than swallowing a decoction of its disgusting leaves.” For male patients, gardening, in all its branches, is about as fashionable as the said diseases, and no liberal man would shrink from the expense of a board fence, if it would induce his drug-poisoned wife to try her hand at turf-spading, or, as a last resort, at hoeing, or even a bit of wheelbarrow-work. Lawn-tennis will not answer the occasion. There is no need of going to extremes and exhausting the little remaining strength of the patient, but without a certain amount of fatigue the specific fails to operate, and experience will show that labor with a practical purpose—gardening, boat-rowing, or amateur carpentering—enables people to beguile themselves into a far greater amount of hard work than the drill-master of a gymnasium could get them to undergo. Besides the potential energy that turns hardships into play-work, athletics have the

further advantage of a greater disease-resisting capacity. Their constitution does not yield to every trifling accident; their nerves can stand the wear and tear of ordinary excitements; a little change in the weather does not disturb their sleep; they can digest more than other people. Any kind of exercise that tends to strengthen—not a special set of muscles, but the muscular system in general—has a proportionate influence on the general vigor of the nervous organism, and thereby on its pathological power of resistance.

For nervous children my first prescription would be—the open woods and a merry playmate; for the chlorotic affections of their elder comrades—some diverting, but without fatiguing, form of manual labor. In the minds of too many parents there is a vague notion that rough work brutalizes the character. The truth is, that it regulates its defects: it calms the temper, it affords an outlet to things that would otherwise vent themselves in fretfulness and ugly passions. Most school-teachers know that city children are more fidgety, more irritable and mischievous than their village comrades; and the most placid females of the genus *homo* are found among the well-fed but hard-working housewives of German Pennsylvania.

That hard work in the factory does not lead to the same result is due to the contrast between fresh and foul air; but also to the difference between sunshine and artificial twilight. Light is a chief source of vital energy, and every deduction from the proper share of that natural stimulus of the organic process is

sure to tell upon the well-being of every living organism. See the difference between the vegetation of the south side and the north side of the same mountain range, the gradations in the stunted appearance of hot-house plants, house-plants, and cellar-plants, the achromatism and strange deformities of animals inhabiting the waters of underground rivers. The direct rays of the sun seem to exercise many of the effects which the manufacturers of "electric brushes" ascribe to the use of their contrivances. In ancient Rome special sun-bathing houses were used as a specific for a form of asthenia, which was then more frequent than premature debility—the infirmity of extreme old age. In winter-time white-haired invalids, stripped to the waist, basked for hours under the glass-roof of a *solarium* which excluded the chill winds, but admitted the light from all sides, and the same remedy would prove even more effective in the treatment of chlorosis—properly a twilight-disease, and due to the same causes that rob a cellar-plant of its color and vigor. A board fence may fail to remove the fear of peeping Toms, but on sequestered mountain-meadows, warmed by a July sun, or better yet on the beach of a lonely sea-shore, the patient may while away an hour in the costume of the Nereids; or, after the manner of the sensible Brazilians, children may at safe hours be permitted to turn a leafy garden into paradise. Persons of highly limited means can utilize the elevation of their garrets, and use a half-screened window-corner as a *solarium*, for hours together. The expectation of disastrous consequences will be as surely disappointed as the dread of the night air.

“Colds” are not taken in that way. The hairy coat which may, or may not, have covered the bodies of our prehistoric forefathers, did not interfere with the beneficial action of the solar rays, and it is not the least among the disadvantages of our artificial modes of life, that this benefit is now limited to one-tenth, or, in the case of a muffled-up lady of fashion, to one per cent. of the cutaneous surface.

The diet should be sparing, but not to the degree of being astringent, for chronic constipation and nervousness are almost invariable concomitants. There are many appetizing vegetable articles of diet of which a liberal quantum can be eaten without exceeding the needs of the organism ; but here, more than elsewhere, it is of paramount importance to remember the chief rule of the peptic catechism : not to eat till we have leisure to digest. Vertigo, myopia (visions of floating specks clouding the eye-sight), palpitation of the heart, and the indescribable irritations and discomforts of the sufferers from nervous disorders, can frequently be traced to the influence of after-dinner work—work, perhaps, requiring severe mental application, though the brain aches for rest—while about a million of American school-teachers and counting house drudges still aggravate their misery by the use of tonic bitters in the United States, and of ginger-drops and *chilé colorado* in South America, Narcotic drinks are an equally fruitful source of nervous affections, and *tea*, the chief culprit, is too often mistaken for a liberator, A cup of “good, strong tea” relieves a nervous headache in exactly the same manner that medicated whisky relieves the

distress of a torpid liver, and the fact that the abnormal excitement is regularly followed by a depressing reaction would not undeceive the victim of the stimulant-delusion, if the repetition of the stimulation-process were not sure to impair the efficacy of the tonic, unless the dose is steadily increased. Only after that increase has in vain been carried to an alarming extent, the patient is apt to look for a less delusive remedy. And yet the sudden discontinuance of a long-wonted tonic will at first aggravate the distress to a degree that would overtax the endurance of most persons, and the trials of the transition period should therefore be mitigated by the influence of some healthy stimulus—the diversion of a journey, or of an exciting and very pleasant occupation. Indigestible made dishes should also be carefully avoided, and the gratitude of suffering thousands—both nurses and patients—awaits the philanthropist who shall give us a treatise on the art of preparing an appetizing dinner without the use of the frying-pan. Nervous people are extremely fastidious, especially in the choice of their solid food, and doubly so after the interdict of their favorite liquids, yet a single plateful of fried and spiced viands may bring on a relapse of the unhappiest symptoms, with the attendant mental affections of the poor followers of Epicurus who “would be perfect gentlemen if it were not for their tantrums.” Spleen is a disorder of the nerves, rather than of the brain, and a large complexus of nerve-organs is situated in the close proximity of the stomach. The eel-stews of Mohammed II. kept the whole empire in a state of nervous-excite-

ment, and one of the meat-pies which King Philip failed to digest caused the revolt of the Netherlands. If hired girls had a vote in the matter, ladies of a certain temper would be restricted to a diet of attractive vegetables.

Everything that tends to exhaust the vital resources of the body disposes it to nervous disorders. *Sexual excesses*, therefore, contribute a large share to the debilitating influences of civilized life. Hysterical affections may sometimes result from the unsatisfied cravings of the sexual passions, but chiefly because the suppression of that instinct often leads to its perversion. There is such a thing as mental incontinence; the writings of hysterical nuns, for instance, abound with erotic effusions. And, while spinsters and widows are often strong-minded to an unsexing degree, the most pitifully nervous women are found among the wives of the wretches who consider a marriage-contract a license for illimited venery. For girls of a chlorotic disposition, a prurient literature does what sewer-gas would do for a consumptive—though idleness will find other means to supply the want of dime-novels. In such cases, *out-door work* is worth all the medicines of the drug-market.

A quiet country home is the best refuge from the sufferings of that dreary form of nervous disorders that result from the reaction of deep mental wounds—disappointed hope, reverses of fortune, or the loss of a favorite child. Seasons make no difference; the very hardships of rustic life often act as a balm in such afflictions. After the death of his only son, Goethe sought solace among the pines of the Thur-

ingian forest, like Shenstone in his Ainsford solitude, and Petrarch in his hermitage of Vaucluse. "A sick man" says old Burton, "sits upon a green bank, and when the dog-star parcheth the plains and dries up the rivers, he lies in a shady bower, *fronde sub arborea ferventia temperat astra*, and feeds his eyes with a variety of objects, herbs, trees, to comfort his misery or takes a boat on a pleasant evening, and rows upon the waters, which Plutarch so much applauds, Ælian admires, upon the river Pinrus—in those Thessalian fields, beset with green bays, where birds so sweetly sing that passengers, enchanted, as it were, with their heavenly music, *ominum laborum et curarum obliviscantur*, forget forthwith all labors, care and grief." Especially if the passenger can be persuaded to row his own boat, and to dismiss the delusion that the night-mists of his Pineus have to be counteracted with a bottle of alcoholic bitters.

In the homes of the poor, nervous afflictions are sometimes the result of *insufficient sleep*. After a sleepless night, the attempt to engage in labor of an exacting kind will lead to a fever of fidgets and nervous twitchings, and the same consequences may result from the habit of rising every morning before Nature admits that the gain of the night has quite equalized the expenses of the foregoing day. But it is a true saying that we are not nourished by what we eat, but by what we digest, and that an indigestible meal is as bad as a fast-day. Nervous people should remember that unquiet sleep is not much better than sleeplessness, and that the blessing of a good night's rest can be enjoyed only in a well-ventilated

bedroom. With the largest possible supply of fresh air by day and by night, with sunshine, out-door exercise and healthy food, the most obstinate nervous disorders can be gradually overcome; the impediments yield, till the river of life flows with an unobstructed current: the body has been restored to the conditions of existence for which its organism was originally adapted.

CHAPTER IX.

CATARRH.—PLEURISY.—CROUP.

The progress of the *healing art*, as distinguished from certain sterile branches of medical science, can be best measured by the progress of our insight into the causes of our special maladies. For the accidental discovery of a "specific" means generally nothing but the discovery of a method for suppressing special symptoms of a disease. Quinine subdues chills, but does not prevent a relapse of febrile affections; brandy neither cures nor subdues dyspepsia, but merely interrupts it with a transient alcohol-ferver. But, as soon as we ascertained that scrofula or the "king's-evil," was not caused by a mysterious dispensation of Providence, but by the bad food and foul air, the cure of the disease became easy enough; the king's-evil disappeared without the aid of the king.

That "colds," or catarrhal affections, are so very common—so much, indeed, as to be considerably more frequent than all other diseases taken together

—is mainly due to the fact that the cause of no other disorder of the human organism is so generally misunderstood. Few persons have recognized the origin of yellow fever; about the primary cause of asthma we are yet all in the dark; but in regard to “colds” alone the prevailing misconception of the truth has reached the degree of mistaking the cause for a cure, and the most effective cure for the cause of the disease. If we inquire after that cause, ninety-nine patients out of a hundred, and at least nine out of ten physicians, would answer, “Cold weather,” “Raw March winds,” or “Cold draughts,” in other words, out door air of a low temperature. If we inquire after the best cure, the answer would be, “Warmth and protection against cold draughts”—i. e., warm, stagnant, indoor-air. Now, I maintain that it can be proved, with an absolute certainty as any physiological fact admits of being proved, that warm, vitiated indoor air is the cause, and cold out-door air the best cure, of catarrhs. Many people “catch cold” every month in the year, and often two or three times a month. Very few get off with less than three colds a year; so that an annual average of five catarrhs would probably be an underestimate. For the United States alone that would give us a yearly aggregate of two hundred and fifty-five million “colds.” That such facilities for investigation have failed to correct the errors of our exegetical theory is surely a striking proof how exclusively our dealings with disease have been limited to the endeavor of suppressing the symptoms instead of ascertaining and removing the cause. For, as a test of our unbiased faculty of observation, the

degree of that failure would lead to rather unpronounceable conclusions. What should we think of the scientific acumen of a traveler who, after a careful examination of the available evidence, should persist in maintaining that mosquitoes are engendered by frost and exterminated by sunshine? Yet, if his attention had been chiefly devoted to the comparative study of mosquito-ointments and mosquito-bars, he might, for the rest, have been misled by such circumstances as the fact that mosquitoes abound near the ice-bound shores of Hudson Bay, and are rarely seen on the sunny prairies of Southern Texas. In all the civilized countries of the colder latitudes, catarrhs are frequent in winter and early spring, and less frequent in midsummer: hence the inference that catarrhs are caused by cold weather, and can be cured by warm air. Yet of the two fallacies the mosquito theory would, on the whole, be the less preposterous mistake; for it is true that long droughts, by parching out the swamps, may sometimes reduce the mosquito-plague, but no kind of warm weather will mitigate a catarrh, while the patient persists in doing what thousands never cease to do the year round, namely, to expose their lungs, night after night, to the vitiated, sickening atmosphere of an unventilated bedroom. "Colds" are, indeed, less frequent in midwinter than at the beginning of spring. Frost is such a powerful disinfectant that in very cold nights the lung-poisoning atmosphere of few houses can resist its purifying influence; in spite of padded doors, in spite of "weather-strips" and double windows, it reduces the in-door temperature enough to paralyze

the floating disease-germs. The penetrative force of a polar night-frost exercises that function with such resistless vigor that it defies the preventive measures of human skill; and all Artic travelers agree that among the natives of Iceland, Greenland and Labrador pulmonary diseases are actually unknown. Protracted cold weather thus prevents epidemic catarrhs, but during the first thaw* Nature succumbs to art: smoldering stove-fires add their fumes to the effluvia of the dormitory, tight-fitting doors and windows exclude the means of salvation: superstition triumphs; the lung-poison operates, and the the next morning a snuffling, coughing, and red-nose family discuss the cause of their affliction. "Taken cold"—that much they premise without debate. But where and when? Last evening, probably, when the warm south wind tempted them to open the window for a moment. Or "when those visitors kept chatting on the porch, and a drop of water from the thawing roof fell on my

* The correlation of damp weather and catarrhs can be explained by the fact that moisture lessens the modicum of fresh air which would otherwise penetrate a building in spite of closed windows. "All materials," says a correspondent of the "Revue des Deux Mondes," "become impermeable to the air when they are wet. It has been found less easy to drive moisture through bricks and mortar than to make air pass through them; only a few drops of the liquid can be made to appear on the opposite surface. Water is therefore not easy to dislodge from the pores it has occupied, and is removed at most very slowly by evaporation. But, when water stops the pores, it prevents the air from circulating through them—a mischievous effect upon the permeability of building materials."—(*Vide* "Popular Science Monthly" for December, 1883, p. 170.)

neck." Or else the boys caught it by playing in the garden and not changing their stockings when they came home. Resolved, that a person cannot be too careful, as long as there is any snow on the ground. But even that explanation fails in spring; and, when the incubatory influence of the first moist heat is brought to bear on the lethargized catarrh-germs of a large city, a whole district-school is often turned into a snuffing-congress. The latter part of March is the season of epidemic colds.

The summer season, however, brings relief. In the sweltering summer nights of our large sea-board towns the outcry of instinct generally prevails against all arguments of superstition; parents know that their boys would desert and sleep in a ditch rather than endure the horrors of an air-tight sweat-box; so the windows are partially opened. The long, warm days also offer increased opportunities for outdoor rambles. In midsummer, therefore, Nature rallies once more. But not always. There are people whose prejudices cannot be shaken by experience, and in their households a perennial system of air-poisoning overcomes the redeeming tendencies of out-door life, as the subtile mixtures of La Brinvilliers overcame the iron constitution of her last husband. Their children snuffle the year round; no cough-medicine avails, no flannels and wrappers, even in the dog-days; and the evil is ascribed to "dampness," when the cold-theory becomes at last too evidently preposterous.

To an unprejudiced observer, though, that theory is equally untenable in the coldest month of the

year. No man can freeze himself into a catarrh. In cold weather the hospitals of our Northern cities sometimes receive patients with both feet and both hands frozen, with frost-bitten ears and frost sore eyes, but without a trace of a catarrhal affection. Duck-hunters may wade all day in a frozen swamp without affecting the functions of their respiratory organs. Ice-cutters not rarely come in for an involuntary plunge-bath, and are obliged to let their clothes dry on their backs ; it may result in a bowel-complaint, but no catarrh. Prolonged exposure to a cold storm may in rare cases induce a true pleural fever, a very troublesome affection, but as different from a "cold" as a headache is from a toothache—the upper air-passages remain unaffected. Sudden transition from heat to cold does not change the result. In winter the "pullers" of a rolling-mill have often to pass ten times an hour from the immediate neighborhood of a furnace to the chill draught of the open air ; their skin becomes as rough as an armadillo's, their hair becomes grizzly or lead-colored; but no catarrh. On my last visit to Mexico, I ascended the peak of Orizaba from the south side, and reached the crater bathed in perspiration ; and, following the guide across to the northwest slope, we were for ten minutes exposed to an ice-storm that swept the summit in blasts of fitful fury. Two of my companions, a boy of sixteen and an old army-surgeon, were not used to mountain-climbing, and could hardly walk when we got back to our camp in the foot-hills, but our lungs were none the worse for the adventure. Dr. Franklin, who, like Bacon and Goethe,

had the gift of anticipative intuitions, seems to have suspected the mistake of the cold-air fallacy. "I shall not attempt to explain," says he, "why damp clothes occasion colds, rather than wet ones, because I doubt the fact; I believe that neither the one nor the other contributes to this effect, and that the causes of colds are totally independent of wet and even of cold" ("Miscellaneous Works," p. 216).

"I have, upon the approach of colder weather, removed my under-garments," says Dr. Page, "and have then attended to my out-door affairs, minus the overcoat habitually worn; I have slept in winter in a current blowing directly about my head and shoulders; upon going to bed, I have sat in a strong current, entirely nude, for a quarter of an hour, on a very cold, damp night, in the fall of the year. These and similar experiments I have made repeatedly, and have never been able to catch cold. I became cold, sometimes quite cold, and became warm again, that is all," (Natural Cure," p. 40).

There are many ways, less often sought than found, for "becoming quite cold and warm again," but an experimenter, trying to contract a catarrh in that way, would soon give it up as a futile enterprise; after two or three attempts he would find the attainment of his purpose more hopeless than before; he would find that, instead of impairing, he had improved the functional vigor of his breathing-apparatus. Cold is a tonic that invigorates the respiratory organs when all other stimulants fail, and, combined with arm-exercise and certain dietetic alteratives, fresh, cold air is the best remedy for all the disorders

of the lungs and upper air-passages. As soon as oppression of the chest, obstruction of the nasal ducts, and unusual lassitude indicate that a "cold has been taken"—in other words, that an air-poison has fastened upon the bronchi—its influence should at once be counteracted by the purest and coldest air available, and the patient should not stop to weigh the costs of a day's furlough against the danger of a chronic catarrh. In case imperative duties should interfere, the enemy must be met after dark, by devoting the first half of the night to an out-door campaign, and the second half to an encampment before a wide-open window. If the fight is to be short and decisive, the resources of the adversary must be diminished by a strict fast. Denutrition, or the temporary abstinence from food, is the most effective, and, at the same time, the safest method for eliminating the morbid elements of the system; and there is little doubt that the proximate cause of a catarrh consists in the action of some microscopic parasite that develops its germs while the resistive power of the respiratory organs is diminished by the influence of impure air. Cold air arrests that development by direct paralysis. Toward the end of the year a damp, sultry day—the catarrh weather *par excellence*—is sometimes followed by a sudden frost, and at such times I have often found that a six hours' inhalation of pure, cold night-air will free the obstructed air-passages so effectually that on the following morning hardly a slight huskiness of the voice suggests the narrowness of the escape from a two weeks' respiratory misery. But, aided by exer-

cise, out-door air of any temperature will accomplish the same effect. In two days a resolute pedestrian can walk away from a summer catarrh of that malignant type that is apt to defy half-open windows. But the specific of the movement-cure is arm-exercise—dumb-bell swinging, grapple-swing practice, and wood-chopping. On a cold morning (for, after all, there are ten winter catarrhs to one in summer), a wood-shed *matinée* seems to reach the seat of the disease by an air-line. As the chest begins to heave under the stimulus of the exercise, respiration becomes freer as it becomes deeper and fuller, expectoration ceases to be painful, and the mucus is at last discharged *en masse*, as if the system had only waited for that amount of encouragement to rid itself of the incubus. A catarrh can thus be broken up in a single day. For the next half-week the diet should be frugal and cooling. Fruit, light bread, and a little cold, sweet milk, is the best catarrh-diet. A fast-day, though, is still better. Fasting effects in a perfectly safe way what the old-school practitioners tried to accomplish by bleeding; it reduces the semi-febrile condition which accompanies every severe cold. There is no doubt that by exercise alone a catarrh can gradually be “worked off.” But in-doors it is apt to be steep up-hill work, while cold air—even before the season of actual frosts—acts upon pulmonary disorders as it does upon malarial fevers: it reduces them to a less malignant type.

A combination of the three specifics—exercise, abstinence, and fresh air—will cure the most obstinate cold; only, the first signs of improvement should not

encourage the convalescent to brave the atmosphere of a lung-poison den. So-called chronic catarrhs are, properly speaking, a succession of bronchial fevers. The popular idea that an average "cold" lasts about nine days, has some foundation in truth. Like other fevers, catarrhs have a self-limited period of development, but the recovery from the first attack constitutes no guarantee against an immediate relapse; on the contrary, the first seizure appears to prepare the way for its successors. A long sojourn in an absolutely pure atmosphere, as in a summer camp on the mountains, seems for a while to make the lungs catarrh-proof, by increasing the vigor of their resisting ability, and the returned tourist may find to his surprise that the air of his family den can now be breathed without the wonted consequences. But the addition of a stove or a double window at last turns the scales against Nature, and the first malignant cold reproduces the sensitiveness of the respiratory organs.

After recovery from a chronic catarrh the danger of contagion should therefore be carefully avoided. In many of our Northern cities ill-ventilated reading-rooms are veritable hot-beds of lung-poison, as crowded court-rooms in the villages, and taverns and quilting-assemblies in the backwoods. Meeting-houses, with their large windows and small, rarely-used stoves, are less dangerous; but stuffy school-rooms are as prolific of colds as swamps of mosquitoes, and often counteract all sanitary precautions of the domestic arrangements. Stuffed railway-cars, too, could claim a premium as galloping-consumption

factories; and after dark the retreat to an overheated "Pullman sleeper" would hardly increase the chances of longevity; the best plan for long-distance travelers would, on the whole, be to secure a rear seat, where open windows are less apt to awaken the groans of air-fearing fellow-passengers, and risk cinders and smoke rather than the miasma of the galloping man-pen.

It would be a mistake to suppose that "colds" can be propagated only by direct transmission or the breathing of recently vitiated air. Catarrh-germs, floating in the atmosphere of an ill-ventilated bedroom, may preserve their vitality for weeks after the house has been abandoned; and the next renter of such a place should not move in till wide-open windows and doors and a thorough draught of several days has removed every trace of a "musty" smell.

If a bronchial catarrh is accompanied by a persistent cough, it indicates that the affection is deep-seated, and that it has probably spread to the upper lobes of the lungs. Arm-exercise and a mild, saccharine diet generally suffice to loosen the phlegm and thereby remove the proximate cause of the evil. But, if those remedies fail, there is a presumption that the chronic character of the affection is due to a permanent external cause of irritation, which can be removed only by a change of air. In such cases cough-sirups merely palliate the evil. Medicines, counter-irritants, and fasting are in vain, if the lungs of the patient are constantly impregnated with new morbid germs; even exercise can do little more than alleviate the distress of the symptoms; a radical

cure is impossible as long as every night undoes the work of the preceding day. In a home of prejudices the patient should at once change his bedroom and take care to profit by the change.

A neglected catarrh may result in an attack of *pleurisy*. Each lung is inclosed in a sack-like serous membrane, which connects with a similar membrane lining the inner surface of the chest. This double integument, known as the *pleura*, or the visceral and parietal layer of the pleural membrane, communicates both with the lungs and with the upper air-passages, and is more or less affected by every morbid condition of the respiratory organs. *Pleurisy*, or the congestion of the pleural membrane, is generally an inflammatory complication of a chronic catarrh. The original affection may have apparently subsided. Counter-irritants, alcoholic tonics, etc., have subdued the cough; with the exception of an occasional uneasiness about the chest, the condition of the patient seems greatly improved, only an abnormally rapid pulse justifies a suspicion that the smothered fire has not been wholly extinguished. A change of residence or plenty of out-door exercise may perhaps ratify the sham-cure. A normal pulse would give assurance that the masked fever has really subsided. But under less favorable circumstances an oppressive heat and a strange feeling of uneasiness will some day announce the approaching crisis of the latent disorder. Chills follow at shorter and shorter intervals, and at last a pricking pang in the region of the upper ribs reveals the seat of the affection. Breathing soon becomes so painful that the patient finds no

rest in an horizontal position, but has to sit up in his bed, and may feel sorely tempted to relieve his distress by invoking the aid of the drug-gods. For believers in the remedial resources of Nature, pleurisy is, indeed, a crucial test of faith, and Dr. Isaac Jennings's observations on his experience during an acute attack of the disease deserve to be framed in every hygienic sanitarium.

“For twelve hours,” says he, “breathing was at best laborious and painful, confining me to nearly an erect position in bed ; but the distress occasioned by efforts at coughing was indescribable. The confidence of my wife in the ‘let-alone’ treatment, which had been strengthening for years, and had carried her unflinchingly through a number of serious indispositions, on this occasion faltered ; and she begged me to let her send for a physician to bleed me or do something to give at least temporary relief ; ‘for, said she, ‘you *cannot* live so.’ In my own mind there was not the least vestige of misgiving respecting the course pursued.

“In view of the constitutional defect in the pulmonary department of my system, and the nature and severity of the symptoms, it appeared to me very doubtful whether the powers of life would hold out and be able to accomplish what they had undertaken and put me again upon my feet. But I felt perfectly satisfied that whatever could be done to good purpose would be done, by ‘due course of law.’ My mind, therefore, was perfectly at ease in trusting Nature's work in Nature's hands. There was no danger in the symptoms, let them run as high as they would. They

constituted no part of the real difficulty, but grew out of it. The general movement which made them necessary was aiming directly at the removal of that difficulty. Instead, therefore, of being troubled with the idea that I could not live with such symptoms, my conviction was very strong that I could live better with them than without them.

“In the morning, ten or twelve hours from the beginning of the cold chill, there was some mitigation of suffering, which continued till afternoon, when there was a slight exacerbation of symptoms; but the heaviest part of the work was accomplished within the first twenty-four hours. From that time there was a gradual declension of painful symptoms, till the fifth day, when debility and expectoration constituted the bulk of the disease.

“Full bleeding at the commencement of the disease, followed by the other ‘break-up’ means usually employed in such affections, would have given me immediate relief, and, by continuing to ply active means as the work was urged on (for there would have been no stopping of it, short of stopping the action of the heart), the strongest, most distressing, and critical part of the disease might have been pushed forward to the fifth day; and I might even then possibly have recovered. But, granting that my life would have been spared, I suffered much less on the whole under the ‘let alone’ treatment than I should have done under a perturbing one, besides having the curative process conducted with more regularity, made shorter, and done up more effectually” (“Medical Reform,” p. 312).

After the paroxysm of the disease has subsided, the pectoral fever can be alleviated by the free use of cold water and strict abstinence from solid food. Avoid over-warm bedclothing. By a load of warm covers alone a common catarrh can be aggravated into a hot fever till the blanket-smothered patient is awakened by the throbbing of a galloping pulse. Exercise would promote the discharge of the accumulated serum, but, while the patient is too sore to turn over in his bed, gymnastics are out of the question, and their effect must be accomplished by "passive exercise," manipulation of the thorax, and a swinging motion in a hammock or a rocking easy-chair. With the aid of fresh air and abstinence the remedies of the movement-cure might be entirely dispensed with, if the accumulation of purulent matter were the only risk, but in acute pleurisy there is a greater danger from another cause, namely, that the inflamed surface of the visceral pleura has a tendency to adhere to the lining of the thorax and thus obliterate the pleural cavity. The consequences of that result would be a permanent embarrassment of breathing, or even the total paralysis of the affected lung. Passive exercise and friction (rubbing the less affected parts of the chest with a bathing-brush) will, however, not fail to obviate that danger. As soon as Nature finds relief in a copious expectoration, the crisis of the disease is weathered, and further precautions may be limited to rest and a sparse but emulsive diet—a modicum of sweet cream, with oatmeal-gruel and stewed raisins. That pleurisy was formerly considered a most fatal disease can be more than sufficiently explained by the

fatal measures of treatment which were then in vogue. Dr. Buchan's "Family Medical Library," not more than thirty years ago about the most popular pathological compend, contains the following directions: "In the beginning of a pleurisy the only efficient course is to make the patient stand up on the floor, while blood is drawn from a large orifice *until he faints or is about falling*. . . . If, after the first bleeding, the pain, with the other violent symptoms, should still continue, it will be necessary to take eight or nine ounces more. If the symptoms do not then abate, and the blood shows a strong puffy-coat, *a third or even a fourth bleeding may be requisite*. . . . Topical bleeding has also a good effect in this disease. It may be performed by applying a number of leeches to the parts affected, or by cupping, which is both a more certain and expeditious method than the other. . . . Then, take: Solution of acetated ammonia, three drachms; mint-water, one ounce; tincture of opium, twenty-five drops; sirup of tolu, two drachms, and antimonial wine, thirty drops. Nothing is so certain to give speedy and permanent relief as a combination of ipecac, calomel, and opium." And in that form of the disease known as "bilious pleurisy," "emetics and mercurial cathertics are of the utmost importance. . . . Purgatives should be continued through the whole course of the disease. . . . a blister should be applied *of sufficient size to embrace the whole breast*"! ("Family Medical Library," pages 174, 183).

Croup is an obstruction of the upper air-tubes, induced by the lethargic influences of overfeeding and

warm, impure air. How an overloaded stomach reacts on the functions of the respiratory organs, many adults have an opportunity to experience in the strangling sensations of a "nightmare," though the respiratory stimulus of the cool night-air generally helps to overcome such affections, especially, if the sufferer can ease his lungs by a contraction of his arms or by turning over on his side. But infants are not only more grossly overfed than the most gluttonous adults, while the phlegm-producing quality of their food increases the danger of respiratory obstructions, but that danger is still aggravated by feeding their lungs on the sickening air of an overheated and ill-ventilated bedroom, and still further aggravated by swaddling and bandaging them in a way to prevent every motion that might help to ease their distress. *Spasmodic croup* generally occurs after the establishment of a plethoric diathesis—after persistent overfeeding has turned a baby into a mass of fat and fretful sickness. Some night, usually after a heavy surfeit, the child is awakened by a feeling of suffocation and gasps for breath till the obstruction is removed by a violent fit of coughing. "Croup-sirup" (treacle and laudanum) subdues the symptoms by lethargizing the irritability—for a little while, for soon a second and more violent fit has to complete the work of the first paroxysm by expelling the accumulated phlegm.

But a far more dangerous form of the disease is developed when the predisposing causes are aggravated by an inflammation of the larynx. Inflammatory

croup, or exudative laryngitis,* does not occur un-awares, but is preceeded by a very peculiar cough, a hoarse, cough-like bark, mingled with strange wheezing and metallic sounds. The windpipe is congested, and in that note of warning appeals for relief from impure air and deliverance from the influence of a crapulent diet. Nine times out of ten the effect of its appeal is a dose of narcotic cough medicine, more tightly-closed windows and a hotter stove. The process of surfeit in the mean while continues; the windpipe, already abnormally contracted by its inflamed condition, becomes less and less able to resist the obstructing influence of the accumulated phlegm; at night, when the exclusion of every breath of fresh air† has still further reduced the functional energy of the respiratory organs, a viscid matter rises in bubbles, and one of these bubbles, like a tenacious membrane, closes the tube of the larynx. Suffocation results, and, in the ensuing struggle for life, Nature has a very slim chance to prevail. In our Northern States alone, five or six thousand perish thus every year—killed by domestic contrivances as surely as the prisoners of Surajah Dowlah were killed by the arch-

* Called also "true croup," or "pseudo-membranous laryngitis," "plastic laryngitis."

† "I lately attended an infant, whom I found muffled up over head and ears in many folds of flannel, though it was in the middle of June. I begged for a little free air to the poor creature; but, though this indulgence was granted during my stay, I found it always on my return in the same situation. Death, as might have been expected, soon freed the infant from all its miseries; but it was not in my power to free the minds of its parents from those prejudices which proved fatal to their child."—(Dr. G. G. Northwood, "Management of Children," p. 619.)

itectural arrangements of the Black Hole. If the physician is only called in the last stage of the *deliquium*, inflammatory croup constitutes one of those exceptional cases where artificial causes of diseases have to be met by artificial remedies. The far-gone exhaustion of the patient, a thin, expiring pulse, would indicate that tracheotomy, or the opening of the windpipe, offers the only hope of salvation. A violent, suffocating, and spasmodic cough would indicate that the expulsive efforts of Nature require the aid of a swift emetic—tartar or ipecacuanha.

But, if the symptoms of danger are heeded in time, croup is as curable as a common catarrh. As soon as the characteristic cough betrays the condition of the windpipe, the patient—infant or adult—should be reduced to two meals, the last one not later than four hours before sunset. Flesh-food, greasy made-dishes, narcotic drinks, as well as all kinds of alcoholic stimulants, should be strictly avoided. Before night *the bed should be removed to a cool and carefully ventilated room*. Families who have no alternative should not hesitate to open every window for at least fifteen minutes, and in the mean while compromise with their prejudices by carrying the child to the next neighbor's, rather than bring it back before the air of the bedroom has been thoroughly purified. A draught of very cold air might possibly excite a cough that would precipitate the crisis of the disease, though by no means lessen the chances of a lucky issue. But more probably fresh air, whether cold or cool, would so reinforce the remedial resources of nature that the

inflammation would subside in the course of a few days.

If, in spite of such precautions, a strangling-fit should occur at night, the child should be immediately *raised to a half-upright position*, by making the weight of the body rest on the knees, with the head slightly inclined (face downward), the elbows back, and the hands resting against the hips—the position which a person would instinctively assume in the endeavor to aid an expulsive effort of the lungs. Between the paroxysms ease the chest by a *quick forward and backward movement of the arms*, and by *persistent friction with a wet brush, applied to the neck and the upper ribs*. Under the influence of these stimulants, combined with the invigorating tendency of fresh air, the organism will employ all its resources to the best advantage and soon relieve itself by a sort of retching cough. If the difficulty has not been aggravated by the use of “croup-sirup,” the patient will rest at ease for the remaining hours of the night. A week may go by without a recurrence of the suffocating fit; but only the subsidence of the inflammation—indicated by the diminished hoarseness of the cough—gives a guarantee that the danger is past.

CHAPTER X.

MISCELLANEOUS REMEDIES.

An *Æsthetics*.—The inductive study of Nature has often proved the shortest way to discoveries which other methods can reach only by a circuitous route. The ancient Greeks, recognizing the significance of the fact that malarial complaints vanish at the approach of winter, cured their fever-patients by refrigeration and this century of research will perhaps close before some experimenting Pasteur stumbles upon the fact that the proximate cause of ague and yellow fever can be traced to the agency of microscopic parasites whose development may be arrested by the influence of a low temperature. More than two thousand years ago the movement-cure, the fasting-cure, and other reactions against the baneful tendencies of the drug-delusion, were anticipated by the school of the natural philosopher Asclepiades.

The principle of the best *natural anæsthetic*, too, was practically applied, if not theoretically understood, by our rude ancestors. No one who has watched the

contest of a pair of rough-and-tumble fighters—biped or quadruped—or participated in a scuffle of that sort, can doubt that the excitement of the fight temporarily blunts the feeling of pain. Count Ranzau, the “Streit-Hans”—“Rowdy Jack,” as his comrades used to call him—once received three dagger-stabs before he knew that he was wounded at all. Soldiers, storming a battery, have often suddenly broken down from the effects of wounds which they had either not felt, or suspected only from a growing feeling of exhaustion. Olaf Rygh, the Norwegian Herodotus, tells us that, when the old Baresarks felt the approach of their end, they robbed death of its sting by drifting out to sea in a scuttled or burning boat, and thus expired, “screaming the wild battle-songs of their tribe.” The Roman gladiators shouted and laughed aloud while their wounds were being dressed. A scalded child sobs and gasps for a therapeutical purpose: instinct teaches it the readiest way to benumb the feeling of pain. The physiological *rationale* of all this is that *rapid breathing is an anæsthetic*. In a paper read before the Philadelphia Medical Society, May 12, 1880, Dr. W. A. Bonwill ascribes that effect to the influence of the surplus of oxygen which is thus forced upon the lungs, just as by the inhalation of nitrous-oxid gas (which is composed of the same elements as common air, but with a larger proportion of oxygen), and mentions a large variety of cases in his own practice where rapid breathing produced all the essential effects of a chemical pain-obtunder, without appreciably diminishing the *consciousness* of the patient. Persons who object to the use of chlor-

oform (perhaps from an instinctive dread that in their case the ether-slumber might prove a sleep that knows no waking), can benumb their nerves during the progress of a surgical operation by *gasping as deeply and as rapidly as possible*. "One of the most marked proofs of its efficacy," says Dr. Bonwill, "was the case of a boy of eleven years for whom I had to extract the upper and lower first permanent molars on both sides. He breathed rapidly for nearly a minute, when I removed in about twenty seconds all four of the teeth. He declared there was no pain, and we needed no such assertion, for there was not the slightest indication that he was undergoing a severe operation."

The administration of chloroform often produces distressing after-effects, nausea and sick-headaches, that sometimes continue for days together; and I remember two instances in the records of a French military hospital where it resulted fatally in the case of patients who had in vain protested and offered to forego the benefits of the anæsthetic—perhaps actually from an instinctive consciousness of some constitutional peculiarity which in their case increased the risks of its use. Ether-spray, on the other hand, is a legitimate application of the principle that *cold benumbs the feeling of pain*. Death by freezing is preceded by an absolute anæsthesia; and the painfulness of bruises, wasp-stings, etc., can be diminished by the topical application of an ice-poultice.

APOPLEXY.—The proximate cause of apoplexy is due to a congestion of the cerebral blood-vessels, induced by alcoholism, dietetic excesses, combined

with the influence of sedentary habits. Consciousness, at least, can generally be restored by lessening the tendency of the circulation toward the head. The patient should be propped up in a sitting posture, with his head erect, his neck bared, and his temples and occiput moistened with cold water, while friction or a warm foot-bath should determine the circulation toward the extremities. Open every window of the sick-room, and, after the patient has sufficiently recovered to sit up in bed, direct him to turn his face toward the cool draught, and now and then cool his temples with a cataplasm of crushed ice. For the first twenty-four hours let him abstain from all solid food.

Persons with an apoplectic diathesis should adopt a frugal and aperient diet, and avoid prolonged sedentary occupations, especially in a heated room. They should also avoid superfluous bedclothing, and open their bedroom-windows in all but the stormiest nights. The feet, however, ought to be kept warm under all circumstances. Plethoric gourmands ought at least to renounce late suppers and alcoholic stimulants.

BURNS AND SCALDS.—Loose cotton, slightly moistened with linseed-oil, has an almost magical effect in relieving the pain of severe burns. When inflammation has supervened the feverish condition of the patient requires cooling ablutions and the free use of ice-water, both topically and as a sedative beverage. Slight burns can be treated with any emollient application, and a piece of common court-plaster is

sufficient to protect the sore till a new skin has formed under the blister.

CHILBLAINS.—The effect of frost-bites is often aggravated by a too sudden change of temperature, or rather by the application of the wrong kind of caloric. The restoring warmth should come from within rather than from without. It is not necessary to scrape a frost-bitten person with icicles, after the Russian plan; friction of any kind above or around the affected part will restore, as far as possible, the suspended circulation of the blood, and thus initiate the remedial functions of Nature. Deep foot-sores should be bandaged with linen rags and clean warm tallow.

DROPSY.—It is a suggestive fact that the prevalence of dropsy has decreased since bleeding has gone out of fashion. There was a time when venesection was resorted to in nine out of ten kinds of diseases, and at that time a complaint which in its chronic form appears now only almost as a consequence of outrageous dietetic abuses was nearly as frequent as consumption. Bleeding impoverishes the blood, and dropsy, in any of its forms, can nearly always be traced to a deprivation of the humors by unwholesome food or drink, or a disorder of the blood-making organs. As a symptomatic complaint, for instance, dropsy frequently appears in the last stage of pulmonary consumption, when the wasted lungs have become unable to fulfil the chief purpose of respiration. Next to the alcohol habit, the habitual breathing of impure air is the present main cause of dropsy, for air is gaseous food, and a sufficient supply of oxygen a chief preliminary in the conditions of the blood-making process. Mal-

arial diseases likewise impoverish the blood by a direct process of disintegration ; and dropsy appears as an occasional after-effect of a long-continued ague. Remedies : Mountain-air, a light but nourishing diet, and strict abstinence from alcoholic stimulants.

EMETICS.—Tepid water is a prompt, and the most harmless, emetic. In urgent cases (poisonings, etc.) add a modicum of white mustard (*Sinapis alba*), and tickle the fauces with the wing-feather of a pigeon, or any similar object. Excessive vomiting can be checked by stimulating applications to the pit of the stomach and extremities.

EPILEPSY.—Epilepsy, or the falling-sickness, is a complication of nervous derangements, and results more frequently from sexual excesses than from all other causes combined. In young children, however, epilepsy is some times a consequence of teething-difficulties, of acidity in the stomach, and of worms, and in such cases can be readily cured by a change of regimen, or, in malignant cases, by a protracted fast. For adults, strict continence and out-door exercise is the best prophylactic. Excessive heat, however, should be carefully guarded against, as well as all exciting passions.

EXCORIATION.—Infants are apt to become “galled” in particular parts of their bodies, about the groins, the lower part of the neck, and under the arms—especially in consequence of the condemnable practice of tight swaddling. To dry up such sores, “galling-plasters” (acetate of lead, etc.) often lead to worse complications, and the best remedy is cleanliness, and

fine lint, smeared with spermaciti-ointment or warm tallow.

FAINTING-FITS, OR SYNCOPE.—Syncope, or, “fainting,” “*Ohnmacht*” “*Desmayo*,” as three nations have called it with a correct appreciation of its chief cause, as distinct from that of apoplexy and convulsions, results from a general deficiency of vital strength. Cold water, applied to the neck, the feet, and the palms of the hands, by means of a bathing-brush, is the best restorative. In severe cases inflation of the lungs by mechanical means has often proved effective. Dr. Engleman mentions the case of a lady in child-bed, who, “after being happily delivered, suddenly fainted and lay upward of a quarter of an hour apparently dead. A physician had been sent for; her own maid, in the mean while, being out of patience at his delay, attempted to assist her herself, and, extending herself upon her mistress, applied her mouth to hers, blew in as much breath as she possibly could, and in a very short time the exhausted lady awakened as out of a deep slumber, when proper things being given her, she soon recovered. The maid being asked how she came to think of this expedient, said she had once seen it practiced by a midwife with the happiest effect.”

A little stream of water falling from a height on the face and neck, the irritation of the olfactory nerves by means of snuff or pungent smells (burned pepper, etc.), the motion of a rumbling cart, have now and then sufficed to restore suspended animation. Persons subject to fainting-fits can use no better prophylactic

than gymnastics in winter, and cold baths and pedestrian excursions in summer-time.

FEBRILE AFFECTIONS.—In all disorders of a malarial and typhoid character, as well as in scarlet fever, measles, small-pox, and epidemic erysipelas, *refrigeration* is more efficacious than medicine. In several zymotic diseases, beside cholera and yellow fever, the action of antiseptic drugs is annulled by the inversion of the digestive process: the chyle is forced back upon the stomach, and mingled with the red corpuscles of the disintegrated blood, is voided in that discharged of *cruur* known as the black-vomit. Bleeding, instead of reducing the virulence of the fever, is apt to exhaust the little remaining strength of the patient. Lord Byron, for instance, was bled to death as surely as if the surgeon had cut his throat.

GOUT.—A paroxysm of this dreadful penalty of idleness and intemperance is preceded by certain characteristic symptoms—lassitude, eructations, a dull headache, involuntary tears, a shivering sensation about the groins and thighs. If the lassitude has not yet taken the form of an unconquerable lethargy, the patient may obviate the crisis of his affection by severe and unremitting physical exercise, a prophylactic which though doubly grievous in a debilitated condition, is incomparably preferable to the hellish alternative. I knew an old army officer who kept a spade in his bed-room, and, at the slightest premonitory symptoms, fell to work upon a sandy hill-side, and once dug a deep trench of forty-five feet in a single night, and toward morning staggered to his quarters and had barely time to reach his bed before

he sank down in a *deliquium* of exhaustion, and awakened late in the afternoon as from a fainting-fit, with sore knees and sorer hands, but without a trace of the gout from which his compact with the powers of darkness proved to have respited him for a full month. The racking pain can be somewhat relieved by such counter-irritants as blisters, violent friction with hot flannel, etc., or actual cauterly and topical application of opiates. The experiments of sixteen carnivorous and alcohol-drinking nations have revealed dozens of similar palliatives, but only two radical remedies—frugality and persistent exercise.

HEADACHE.—Chronic headache is generally a symptom of disordered digestion. To attempt the suppression of the effect while the cause remains can bring only temporary relief, or even increases the subsequent malignity of the disorder. Strong black tea may thus act as a charm—for a day or so; but with the next morning the trouble not only returns, but returns aggravated by the supposed remedy, for chronic headache has no more potent single cause than the habitual use of narcotic drinks. A frugal, non-stimulating regimen, on the other hand, brings help more slowly but permanently, unless the patient abuses the restored vigor of his digestive organs. Acute headaches can generally be traced to influences which tend to obstruct the free circulation of the blood—tight clothing, coldness of the extremities, oppressive atmospheric conditions, etc.—and can be cured only by a direct removal of the cause. As a symptomatic result of a vitiated state of the humors,

as in scrofula and venereal diseases, headaches that defy all medicine often yield to a grape-cure.

HEART-BURN OR CARDIALGIA.—Both words are misnomers, the seat of the pain being the pit of the stomach, and the cause gastric acidity; remedies—fasting and “passive exercise,” a ride in a jolting cart, kneading of the abdomen, etc.

HYPOCHONDRIA, CHRONIC MELANCHOLY, SPLEEN.—Robert Burton, in his “Anatomy of Melancholy,” enumerates some six thousand causes of chronic despondency, and about as many different remedies, of which only six or seven are apt to afford permanent relief: frugality, temperance, early rising, life with a rational object (altruistic, if egotism palls), constructive exercise in the open air, a sunny climate, and social sunshine—the company of children and optimists.

INSOMNIA.—The proximate cause of sleeplessness is plethora of the cerebral blood-vessels, and a palliative cure can be effected by anything that lessens the tendency of the circulation toward the head. But a permanent cure may require time and patience. By night-studies brain-workers sometimes contract chronic insomnia in that worst form which finds relief only in the stupor of a low fever, alternating with consecutive days of nervous headaches. Reforming toppers often have to pass through the same ordeal, before the deranged nervous system can be restored to its normal condition. Fresh air, especially of a low temperature, pedestrian exercise, and an aperient diet, are the best natural remedies. Under no circumstances should sleeplessness be overcome by narcotics. An opium torpor cannot fulfill the

functions of refreshing sleep ; we might as well benumb the patient by a whack on the skull.

JAUNDICE.—Jaundice and chlorosis are kindred affections, and the yellow tinge of the skin is often in both cases due to an impoverished state of the blood—especially a deficiency in the proportion of the red blood-corpuscles—rather than to a diffusion of bilious secretions. Jaundice, as a consequence of obstinate agues, is evidently the result of a catalytic process which disintegrates the constituent parts of the blood. The bite of poisonous animals has often a similar effect. The most frequent predisposing cause, however, is want of sun-light and out-door exercise. Jaundice and chronic melancholy are often concomitant affections, and both a penalty of our dreary, sedentary modes of life. The ancients, indeed, ascribed both complaints to the same cause, for melancholy is derived from a word which means literally “atrabilious,” or black-biled. But the truth seems to be that functional disorders of the liver are the result rather than the cause of a general torpor of the vital process. Remedy—out-door sports, combined with as much fun and sunshine as possible. Alcoholic jaundice-cures may restore the ruddiness of the complexion by keeping the system under the influence of a stimulant fever ; but we might as well congratulate ourselves on the return of health when pulmonary affections mimic its color with their hectic glow.

MENTAL DISORDERS.—The *Lalita Vistara* says that on the day when Buddha, the savior, was born, all the sick regained their health and the insane their

memory. Insanity might, indeed, be defined as a partial derangement or suspension of the faculty of recollection. Nature takes that method of obliterating the memory of impressions which the soul is unable to bear, and thus preserves life at the expense of its intellectual continuity. Lunatics are generally monomaniacs; their judgment may be sound in many respects, but at the mention of a special topic, betrays the partial eclipse of its light. It may be possible that people have been killed by the sudden announcement of good news, but, for one person who has lost his reason from an excess of joy, millions have lost it from an excess of sorrow—a crushing calamity, or the oppressive and at last unbearable weight of the dreariness, the soul-stifling tedium of modern life in many of its phases. The sick soul may have stilled its hunger with a long-hoarded hope, till the evident exhaustion of that hoard leaves only the alternative of despair or refuge in the Lethe of dementation. Where insanity is at all curable it can be cured by the removal of its chief cause—sorrow; and the best remedies are kindness, mirth, and a pleasant occupation. In the middle ages, when both lunacy and the love of earthly happiness were ascribed to the machinations of the devil, lunatics were chained and horsewhipped for the double benefit of their souls, and with results which almost justified the demon hypothesis. Breughel's best illustrations for Dante's hell were made after studies in an Austrian mad-house. The extreme antithesis of such *infernos* is perhaps the State Lunatic Asylum at Tuscaloosa, Alabama, where the shadow of gloom has been

so successfully banished that the happiest results of the cure have almost been anticipated by its methods: the restoration of reason itself could hardly give the patients an additional reason for being happy. They have a park, a flower-garden, and a pet nursery of their own; they have books and music, gymnasia, bath-rooms, and amateur workshops. Wherever their road leads, they can travel it in sunshine, even on hobby-back if they choose, for they have a philosophical weekly of their own, with full permission to explain the revelation of St. John.

MYOPIA — short-sightedness, and far-sightedness (presbyopia), were formerly regarded as absolutely incurable affections, because they were evidently not amenable to the influence of any known drug. But “drug” and “remedy” have at last ceased to be synonymous terms; and, though constitutional defects of the eye may preclude the possibility of a complete cure, there is no doubt that those defects can be modified by a judicious treatment, especially by a mode of life tending to restore the general vigor of the system, by out-door exercise, and by rambles in green, sunny woods, for the colors of the summer forest are as beneficial to the eye as its atmosphere to the lungs. Weak eyes can be strengthened by gradually exercising the capacity of the optic nerve, scrutinizing small objects, first at a moderate and by-and-by at a greater distance, but withal guarding against a fatiguing effort of the eye.

PIMPLES. —The best cosmetic is a grape-cure, i. e., a frugal saccharine, and sub-acid diet, combined with

out-door exercise in the bracing air of a highland country.

RHEUMATISM.—Rheumatism, like gout, is a consequence of dietetic abuses. Counter-irritants, hot baths, etc., can effect a brief respite, but the only permanent specific is fasting. Before the end of the second day a hunger cure benumbs the pain; the organism, on being obliged to feed upon its own tissues, seems to undergo a process of renovation which alone can reach the root of the complaint. Exercise and great abstemiousness will prevent a relapse.

SCROFULA.—A scrofulous taint is in some cases hereditary, and yields only to years of dietetic reform, but, on the whole, there is no more perfectly curable disease. In all but its most malignant forms it yields readily to the influence of pure air and pure food—out-door life, and a wholesome, vegetable diet. Skin-cleaning nostrums only change the form of the disease by driving it from the surface to the interior of the body.

TOOTHACHE.—The extraction of every unsound tooth and the insertion of a “new set” would certainly remove, *in ipsa radice*, the seat, if not the cause, of the evil. But the trouble is, that the function of proper mastication is an indispensable preliminary of digestion, and that for practical efficacy the last stump of a natural tooth is infinitely preferable to the best artificial substitute. The best plan, would, therefore, be to let the stumps remain, and get rid of the pain, and the latter end can be attained by a slow but infallible method. Within half a year after the change of regimen, *absolute abstinence from hot drinks* (especially

boiling hot, sweet tea) and a *very sparing use of animal food* will benumb the sensitiveness of the irritated nerves. I knew an old Mestizo who had learned to chew apples with his bare gums, but only after necessity had reduced him to a frugal regimen. A saccharine diet in the form of sweet, ripe fruit has certainly nothing to do with the decay of the teeth, and it is a suggestive fact that toothache is almost exclusively an affliction of the northern nations.

WARTS AND CORNS.—The predisposing cause of warts is unknown, and the popular remedies are rarely permanent. I have known warts to reappear after they had been thoroughly removed by the use of corrosive acids. The popular belief that they “spread” if the operation involves bleeding seems not to be wholly unfounded, and large warts can be more effectually cured by means of a tight ligature that gradually deadens the tissue. Warts on the upper side of the fingers can generally be atrophied by exerting a long-continued strain upon the adjoining muscles, as in holding up a heavy weight, or seizing the rings of a grapple-swing and dangling by one hand as long as the fingers can support the strain. A callous skin is thus formed under the wart, and before long the excrescence disappears. Corns are entirely owing to the pressure of tight shoes, and can be cured by the use of more commodious foot-wear. To suppress the symptom, while the cause remains, is of little avail, and, before a chiropodist could keep his promise to “remove corns with the root,” he would have to eradicate the folly of heeding the mandates of fashion rather than the appeals of Nature.

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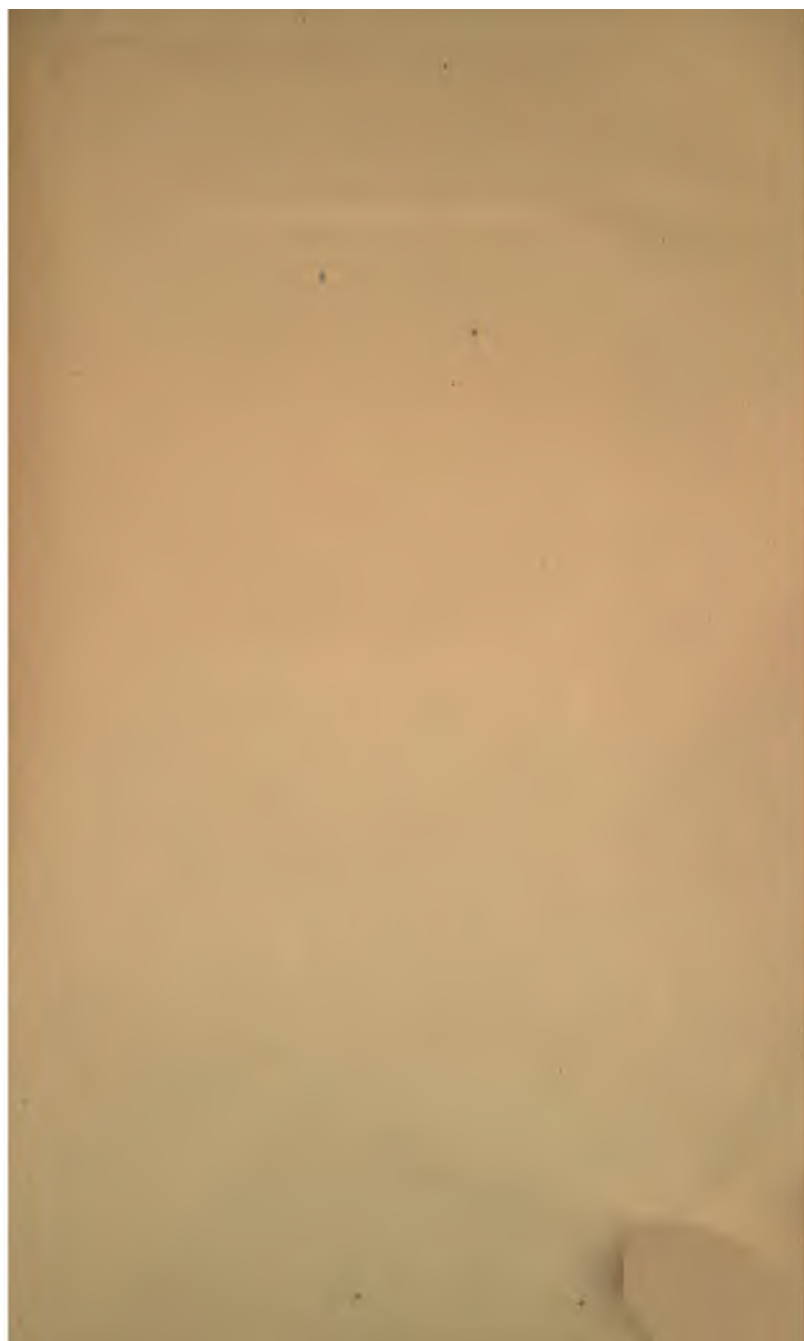
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